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ABSTRACT

A fourth year study of project SAM (Student Accountability Model), initially an effort to provide a system of procedures for collecting data on community college occupational students during and after their stay in college, was expanded to devise a system for incorporating noncoccupational students into the SAM model. The primary objective of the study was to include all community college students into the model in order to obtain a complete picture of a college's preparation of students for employment. The system was generated and proposed by a consortium and then field tested at six community colleges in California. On the basis of the field tests results and the consortium's analysis, seven recommendations were made for possible implementation into the SAM model. A large appendix, which comprises most of this report, contains lists of SAM consortium members, the proposal for the nonoccupational student model, a summary of consortium reactions to the proposal, and final reports from each of the six field test sites. (BM)

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EXTENDING SAM TO INCLUDE ALL COMMUNITY COLLEGE STUDENTS

Final Report

Project #19-64741-C-6-020
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in consultation with

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California Community Colleges

May, 1977

CE 012 176

Background

Project SAM (Student Accountability Model), an effort to provide a system of procedures for obtaining useful information from and about community college occupational students during and after their stay in college, is now in its fourth year.

The project was directed toward meeting two needs: (1) providing consistent, compatible information for reporting to governmental agencies, and (2) providing useful techniques for college program evaluation and planning.

The model developed to date is detailed in the project's Operations Manual, February, 1977.

During the project's first year, the model was produced--incorporating input from colleges throughout the state and guided by a consortium of community college leaders who continue to serve in that capacity. During the second year, the model was disseminated to colleges throughout the state through a series of workshops, written materials and audio-visual presentations. Reception was overwhelming, with 80% of the colleges represented at the workshops and over half beginning implementation of the model. During the third year, it was decided to develop the model along three directions: (1) an extensive pilot test of some of the procedures; (2) an investigation into obtaining employer input into the model; and (3) an investigation into including all community college students into the model. This last item is the subject of this report.

Objectives of the Project

In devising the SAM model, a set of "essential" guidelines and an additional set of "highly desirable" guidelines were agreed upon. The "essential" guidelines pertained to initial development of the system for occupational students, while the "highly desirable" guidelines were stated to be kept in mind for future development. The first of these "highly desirable" guidelines stated that the system should be "expandable to include students other than occupational students". Thus, while the model was originally constructed for occupational students, the consortium recognized the importance of ultimately including all students. Later in this report a list of reasons for this posture is presented. Suffice it to say at this point that it is known that many students who are not classified as "occupational" students do leave college and obtain jobs, thus requiring an expansion of the model if the complete picture of a college's preparation of students for employment is to be obtained.

The primary objective of this project, then, was to devise a system for incorporating non-occupational students into the SAM model in such a way that the system would provide reliable, accurate data and also be acceptable to the colleges.

Activities of the Project

The original SAM consortium (list of members in appendix) guided the activities of this and the other two third-year thrusts mentioned. Consortium members agreed at the outset that the task of classifying and identifying non-occupational courses and student majors (as in the occupational model) would be a very difficult one and that "proceed with caution" should be a byword if a useful, acceptable system were to be forthcoming. Because of this concern, the heavy workload of the consortium, and initial late processing of the project, it was decided to request an extension of the deadline date for the project to March 31, 1977. The request was granted.

The consortium met on October 2 and December 5, 1975, but devoted little of their time to this project. They were requested by the project coordinator to provide ideas to incorporate into an initial proposal to be made to the consortium at its January, 1976 meeting. Meanwhile, the consortium was augmented, for the purpose of this project, to include three additional college administrators in the instruction area (see sub-consortium listing in appendix).

On January 30, 1976, the project coordinator presented, for the purposes of generating reactions and comments, a hypothetical proposal to incorporate into the basic SAM model a new component for non-occupational students patterned after the occupational student model. Consortium members were asked to react in writing so that a summary of reactions could be prepared and discussed at the March 30, 1976 meeting. (proposal and summary of responses is in the appendix)

Following the March 30 meeting, it was agreed that additional field testing was essential before a workable model could be produced. Areas in

which it was felt more experimentation was needed included (1) identification of groups for follow-up, (2) techniques for follow-up, and (3) uses of follow-up information, all as they apply particularly to non-occupational students. Accordingly, it was decided to invite college/districts which had fully implemented the occupational SAM model to submit proposals to perform field tests in one or more of the three areas. At the same time, the full SAM consortium was reduced (for this purpose) to eight (including the three newly added members) with the responsibility to accept proposals which could be funded through the project and to supervise their completion. This change in project direction was submitted to the Chancellor's Office for approval and approval was obtained.

Six college/districts submitted proposals. With some budget adjustments, all were accepted at a sub-consortium meeting on October 1, 1976. All were made aware of the March 31, 1977 deadline date and agreed to meet that deadline. The sub-consortium met on January 14, 1977 to hear and monitor progress reports, and again on March 11, 1977 to hear findings to date and recommendations.

The six college/districts participating in the field tests were Foothill-DeAnza, Cerritos, Ventura/Moorpark, Los Angeles Pierce College, Shasta and San Jose. The first four completed their sub-projects and final reports are appended. Shasta College completed most of their project but asked for a time extension, so an incomplete report is included for Shasta. San Jose had difficulties with data processing and was not able to produce data in time. An explanation is included in their appended report; San Jose plans to complete the project using district funds.

Outcomes

On the basis of the findings of the six field tests and consortium analysis, the following recommendations are made to the SAM consortium for implementation in the coming year:

(1) The original SAM follow-up matrix (indicating groups of non-continuing students categorized for varied approaches to follow-up) be retained as is, with subgrouping of non-occupational students to be accomplished by other means.

(2) A "statement of intention" by the student (not a statement of major) be incorporated into the SAM model and utilized in subgrouping for follow-up of non-occupational students.

(3) A "grade history file" for each student be recommended to the colleges and consideration be given to modifying the SAM follow-up matrix to incorporate information from this file.

(4) Consideration be given to using the USOE codes for non-occupational students as well as occupational students.

(5) A campus "team" approach to follow-up be recommended to the colleges, with needs and responsibilities of each member of the team clearly identified.

(6) Techniques for obtaining adequate questionnaire response rates and estimates of response bias be disseminated to the colleges; appropriate use of telephone interviews should be stressed.

(7) The current Operations Manual be expanded, or a supplementary manual be prepared, detailing the recommendations above.

Appendix

A. List of SAM Consortium Members

B. List of SAM Extension Sub-consortium Members

C. Proposal for "Non-occupational Student Model" presented to consortium

D. Summary of consortium reactions to proposal

E. Field Test Final Reports
   1. Foothill-DeAnza
   2. Cerritos
   3. Ventura/Moorpark
   4. Los Angeles Pierce College
   5. Shasta
   6. San Jose

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TO: Members of SAM Consortium DATE January 30, 1976

FROM: Ben K. Gold BKG

SUBJECT: Extension of SAM to Non-Occupational Students

Attached are some notes prepared for our discussion today. They should be considered only as a few ideas to get us thinking about approaches to the problem.

Please respond to these ideas in writing, and if at all possible, by February 20 (3 weeks from today).

I would appreciate your responses, either by marking this up or by a separate statement, to these questions:

(1) Is this the appropriate approach to the problem? If no, please offer an alternative.

(2) What categories for non-occupational students majors do you think would be most useful?

(3) Can you suggest some G priority courses and corresponding majors?

(4) Can you suggest additional guidelines?

(5) Any other reactions?

Many thanks.

30.09

Why extend the model to non-occupational students?

(1) distinction is really fictitious -- sooner or later all are occupational

(2) we should be interested in what happens to all our students

(3) leaving them out creates an "unfair" image

(4) leaving them out worsens the "second class" status image of occupational education

(5) accurate and complete manpower information requires it

(6) non-occupational programs need evaluation and planning as much as occupational programs

(7) will provide data on relative value of "general" vs "specialized" programs as preparation for employment

(8) we need to know what happens to "transfer" students that don't transfer

(9) many students not identified as occupational get jobs without transferring

(10) model doesn't pick up students who complete an occupational program, then immediately return for non-occupational courses

SOME GUIDELINES FOR EXTENDING SAM TO INCLUDE NON-OCCUPATIONAL STUDENTS

1. Extension must build upon and be compatible with existing SAM model.

2. Extension must not introduce excessive complexity.

3. Major concern is for evaluating and planning courses and programs; reporting for governmental forms is not (at present) required.

4. Since students take non-occupational courses for a variety of reasons including transfer (major and/or breadth requirements), general education, hobby or avocation and others, major identification accuracy can be expected to be lower than that for occupational majors.

5. Non-occupational majors are not necessarily transfer majors.

6. Since many transfer majors have identical requirements for the first two years, we can not reasonably expect to identify many specific majors.

7. Since transfer majors must fulfill breadth requirements, it is not likely that enrollment in <u>one</u> course will imply a major in the area of the course.

8. Classifications of non-continuing students according to previous semester accomplishment (vertical scale on follow-up matrix) should be the same as those for occupational students.

9. <u>All</u> courses should be classified and prioritized so that every student will be placed in a specific class.

10. Procedures for obtaining follow-up information about non-occupational students should incorporate information furnished by four year institutions.

PRIORITY ASSIGNMENTS

A - Apprenticeship

B - Advanced occupational

C - Clearly occupational

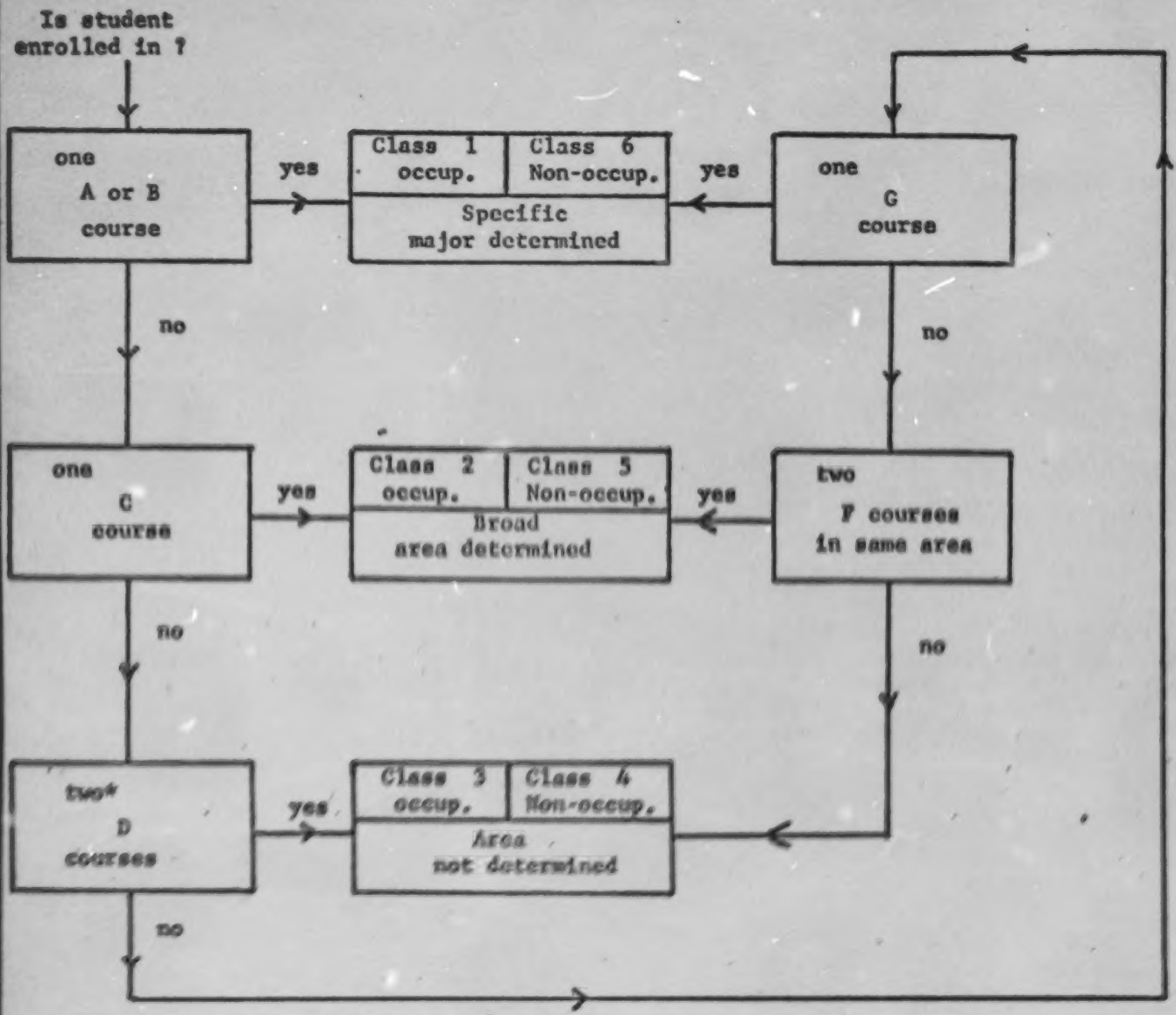
D - Possibly occupational

E - Possibly non-occupational

F - Clearly non-occupational

G - Advanced non-occupational

FLOWCHART FOR DETERMINING STUDENT MAJOR



* one D course if total enrollment is 7 units or less

FOLLOW-UP MATRIX FOR ALL NON-CONTINUING STUDENTS

	OCCUPATIONAL			NON-OCCUPATIONAL		
	Class 1 Specific Major	Class 2 Broad Area	Class 3 Non-Determined	Class 4 Non-Determined	Class 5 Broad Area	Class 6 Specific Area
Graduate G						
Cert. C						
Achiever A						
Part. Comp. P						
Non-Comp. N						

POSSIBLE BROAD AREA CATEGORIES FOR NON-OCCUPATIONAL STUDENT MAJORS

1. Supplement to Vocational-Education categories OE #23052 (1969) "Standard Terminology for Curriculum and Instruction in Local and State School Systems"

2. CID Major Categories (even 100"s)

3. Commonly accepted broad areas
   e.g., Natural Science, Social Science
   Humanities

4. University of California (or Cal State University) categories by schools/colleges

5. Astin (A.C.E. Student Information Form)

A.C.E. 1975 STUD. INFO. FORM (A. ASTIN)

34. Below is a list of different undergraduate major fields grouped into general categories. Mark only one circle to indicate your probable field of study.

ARTS AND HUMANITIES
- Art, fine and applied ○
- English (language and literature) ○
- History ○
- Journalism ○
- Language and Literature (except English) ○
- Music ○
- Philosophy ○
- Speech and Drama ○
- Theology or Religion ○
- Other Arts and Humanities ○

BIOLOGICAL SCIENCE
- Biology (general) ○
- Biochemistry or Biophysics ○
- Botany ○
- Marine (Life) Science ○
- Microbiology or Bacteriology ○
- Zoology ○
- Other Biological Science ○

PHYSICAL SCIENCE
- Astronomy ○
- Atmospheric Science (incl. Meteorology) ○
- Chemistry ○
- Earth Science ○
- Marine Science (incl. Oceanography) ○
- Mathematics ○
- Physics ○
- Statistics ○
- Other Physical Science ○

PROFESSIONAL
- Architecture or Urban Planning ○
- Home Economics ○
- Health Technology (medical, dental, laboratory) ○
- Library or Archival Science ○
- Nursing ○
- Pharmacy ○
- Therapy (occupational, physical, speech) ○
- Other Professional ○

BUSINESS
- Accounting ○
- Business Admin. (general) ○
- Finance ○
- Marketing ○
- Management ○
- Secretarial Studies ○
- Other Business ○

EDUCATION
- Business Education ○
- Elementary Education ○
- Music or Art Education ○
- Physical Education or Recreation ○
- Secondary Education ○
- Special Education ○
- Other Education ○

ENGINEERING
- Aeronautical or Astronautical Eng. ○
- Civil Engineering ○
- Chemical Engineering ○
- Electrical or Electronic Engineering ○
- Industrial Engineering ○
- Mechanical Engineering ○
- Other Engineering ○

SOCIAL SCIENCE
- Anthropology ○
- Economics ○
- Geography ○
- Political Science (govt., international relations) ○
- Psychology ○
- Social Work ○
- Sociology ○
- Other Social Science ○

TECHNICAL
- Building Trades ○
- Data Processing or Computer Programming ○
- Drafting or Design ○
- Electronics ○
- Mechanics ○
- Other Technical ○

OTHER FIELDS
- Agriculture ○
- Communications (radio, T.V., etc.) ○
- Computer Science ○
- Forestry ○
- Law Enforcement ○
- Military Science ○
- Other Field ○
- Undecided ○

Prepared by the Laboratory for Research on Higher Education, University of California, Los A

I. It seems to me that until we get more non-vocational administrators involved in our proposed extension of the SAM model to the non-occupational areas we may be trying to extend into an area where we have insufficient knowledge of their concerns and needs. The only suggestion that I can make would be to pursue our original planning of last year wherein we discussed selecting and including non-occupational administrators, academic counselors, possibly registrars, etc.

. . . . . .

I. I am basically disinclined to treat the non-occupational group in a fashion parallel to that used for occupational students. This is principally because of the facts you indicate in 4 through 7, but from points 2 and 9 I could develop additional arguments (Reference: Gold guideline list).

Briefly, with 66% of our students part-time, and only half of these persisting with study (Knoell's report), it seems to me fruitless to design a procedure based on the assumption that all non-persisters had goals of a long-term or clear sort. Secondly, since lower division majors, even for students who transfer, contain little specialization in many areas, it is highly likely that those who do transfer will shift to other areas of specialization later. All of this is what we expect if education is 'provoking' thought. It contrasts sharply with occupational programs in which sequential course patterns permit priorities with some degree of consensual validation. To apply the method of priorities to non-occupational curricula seems to me analogous to carrying a calculationto five places when you have basic data no finer than tenths.

I believe we would be better served by devising a very simple system which allows us to identify (a) no pattern, (b) GE only pattern -- the breadth or getting acquainted pattern of study, and (c) some focus of interests (such as more than two courses in one broad area). To do this I think we might find it useful to begin with a major classification that is reliable and related to the phenomena such as number of units completed: less than 9 units, 9-17 units and so forth.

Below 9 units, one could be defining persisters v.s. non-persisters; beyond 17 units one would begin to pull out individuals with two or more courses in some major area (e.g. biological sciences) as specializers. This criterion should be worked out within each large area (as classified by ACE/ or Astin's work). For instance, two courses in Spanish hardly makes a Spanish major; it my simply fulfill the language requirement of a college the student hopes to attend, or be the effect of having an interesting conversational Spanish course that led the student to more. However, two or more languages might be the criterion for incipient interest in foreign languages. (It can also be a graduate student taking his foreign language training in a tuition free institution!) It may be we would also find that when we get beyond 25 units or so, the individual still remaining in the no-pattern box is the typical adult learner! And the pot pourri can include some occupational courses!

. . . . . .

Some Reactions (continued)

I. As you indicated in your material, many of the students take general education courses which prepare them for transfer purposes. It might be better to prepare the questionnaire so that after the questionnaire has gone out, the student can let you know their majors while enrolled in college. I know that this is not considered good practice, but I think it would be fare more appropriate than to try to work out a system of developing majors similar to that used in SAM.

The idea that you use possible categories such as that which you included, the ACE, might be feasible, although I would suggest that a committee be set up which could come up with the most logical categories for community colleges, such as the sciences, the arts, the professions, etc.

I might summarize by saying the follow-up has great merit. Certainly, the questions you asked why we need to extend the models is valid. I am not sure that we should develop a system which correlates with the major as we did in SAM. It would seem to me we are more interested in knowing what happens to these students than we are about their major field since the objective of the major field in the academic areas is not as specific as in vocational education.

. . . . . .

V. 1. Is this the appropriate approach to the problem? If no, please offer an alternative.

Yes. Not just because it is easier to say yes than to write an alternative. Everything is more or less relative and without the information on "Non-Occupational' students, we are neglecting data that is most valuable.

2. What categories for non-occupational students majors do you think would be most useful?

Two categories. Those leaving with a degree in an area other than occupational and those leaving with less than a degree yet while in college could not be defined as occupational. This means that we would classify the student while in college as non-occupational and track that student differently if an A.A. or A.S. degree completor.

3. Can you suggest some G priority courses and corresponding majors?

I do not believe that the major identification will make that much difference in the utilization of results.

4. Can you suggest additional guidelines?

No, but I would be happy to review suggestions and make observations regarding the implementation of the guidelines.

5. Any other reactions?

Only positive and encouraging. You are on the track as far as I am concerned.

. . . . . .

Some Reactions (continued)

7. Because non-occupational courses lack the singleness of purpose characteristic of occupational courses, I would eliminate prioritzation and base E to equal one non-occupational course, F = 2 courses, and G = 3 or more non-occupational courses within a non-occupational CID Major Categories designation as listed in a college's Master Plan.

. . . . . .

VI. In response to your initial ideas, I would begin by completely supporting the concept of following up on all students. The approach you suggest is certainly a reasonable one and the concept would make for a single unified system.

As to the categories for non-occupational, I would personally prefer the CID major categories. All colleges are already required to use that system. It would result in less disruption and I think a much easier, general acceptance by non-vocational administrators since they would not have to learn a new system. The USOE supplement is not only out of print but virtually extinct and unused by any other agencies at this time, even in the USOE. Why not use a system already generally accepted by California Community Colleges.

Some suggested G priority courses might be Advanced Ceramics, Advanced Painting, Organic Chemistry, Creative Writing, History of the Americas, Political Science, Theory, French IV, German IV, Scientific German IV, Spanish IV, Mathematical Analysis, Advanced Calculus, Finite Math, Advanced Musicianship, Engineering Physics, Physics IV, etc. It seems to me that Guidelines, at the outset until some trial processes have a chance for evaluation, should be minimal and developed out of apparent needs developed during a validation procedure. Those listed seem to be adequate for a beginning.

Development of an overall system is bound to take time and I think we ought to approach it rather carefully and gradually, not only to end up with a good system, but to alleviate anxieties and resistance and get better acceptance among our academic colleagues.

. . . . . .

VII. I've spent about an hour studying the material you sent regarding classifying non-occupational courses and students. I'm afraid that I have more problems to offer than ideas for solutions,. Here are a few of the most difficult.

1. Classification of courses into occupational versus non-occupational categories is not difficult so long as one is satisfied with lumping all courses that do not bear an A, B, C, or D identifier as non-occupational. If one must draw lines, this seems to be a procedure that is no less arbitrary than any other I can think up. As your material observes, however, a lot of heretofore unclassified courses nevertheless serve occupational purposes.

2. Classifying students is a much more difficult task. I think the occupational versus non-occupational algorithm developed by SAM is about the best that can be conceived. Within the non-occupational category, however,

I can't find a rational basis of classification that distinguishes students unequivocally. Our programs in physical science and mathematics have fairly well-defined sequences of courses. A student in one of the final courses in math is likely to be majoring in math or physics, but we're not sure which. Moreover, he might be a pre-engineering student. Similarly, students taking an advanced biological science course like zoology might be majoring in zoology. It's more likely that they are majoring in biology or pre-medicine or might be in one of our occupational programs in allied health or animal science. Most courses in our curriculum are not as well-sequenced as in the physical and biological sciences. With these, I see no hope for determining a student major from their transcripts, much less from an analysis of their last semester of attendance.

3. One possibility is to identify non-occupational courses along such lines as adult education, recreation, general interest, remedial, transfer, and the like. Orange Coast couldn't do this very well, although other colleges might fare better. The trouble is that one really can't judge from the course title or even its outline what reasons the students have for taking it.

4. Perhaps the best thing after all is to rely on the follow-up instrument itself to help in determing what category students are in. I'm sure I'm as aware as anyone of the pitfalls in this approach. For non-occupational courses, unfortunately, I see no better alternative.

. . . . . .

III. 1. The reasons you stated for extending SAM are very good.

2. In reference to the guidelines for extending SAM, I would like to inject a few thoughts.

I would agree with all of the guidelines except (9). I don't believe that there is a necessity to classify courses. Instead, I think we could define the classifications for non-occupational students as achievers, partial completers, and non-completers so that the definitions are still compatible with the SAM system. For example, define the achiever as one who completed seven (7) or more units the previous semester, the partial completer as one who completed between '0' and '7' units, and the non-completer as one who completed '0' units.

All non-occupational students are then assignable Class 4.

3. A sample follow-up instrument to be sent to a random sample, could be developed by the consortium to include those specific questions which might further classify the students into non-determined, broad area, or specific area. Even the graduates might fall into any one of these categories.

Another possibility is to use the original student declared major, although I feel that the question of major is best asked in a questionnaire after the student has completed some course work.

4. I feel that the method of classifying courses will not clearly identify non-occupational majors for several reasons. For example, many thousands of our students are undeclared majors and take or have taken courses for personal enrichment to make up general education deficiences or for other such reasons. Therefore, any identification of a major by courses taken would be fruitless.

. . . . . .

IX. I have made some inquiry regarding the desirability of following up the non-vocational students. The first reaction I get seems to be "but it's impossible". After I indicated that it may be possible but that our first question is -- Is it desirable? -- I get the reaction of a kind of lukewarm "Yes". There does not seem to be a buring emphatic "Yes". This is probably due to the fact that the colleges feel they get reasonable feedback from California State University and the University of California regarding their transfer students and they don't realize the large number of students who are not vocational and not transfer.

It seems to me that the SAM approach of a course-driven model really will break down outside of the vocational area. I feel this because we have had a fair amount of trouble getting consistence in prioritizing our vocational courses where, theoretically anyway, vocational programs should be structured by having progressively difficult courses to take. If you take the same method outside the vocational area where the student does not have a structured program to follow I think you will have an impossible task of assigning priorities to these non-vocational courses.

I would have to attack this problem from the point of view utilizing our machine readable transcripts. We can identify the total number of units completed by department -- English, Speech, Art, etc. We could also identify those students who had completed the General Education requirements for the California State Universities. For example, we might want to contact students who had left us with or without graduating, who had completed 10 or more units in the Speech Department. This could be accomplished.

. . . . . .

X. Enclosed is a course taxonomy comparison chart prepared by the Department of Finance which I believe we should keep in mind in categorizing courses. With it is a copy of a DRAFT of a letter expressing my concerns and ideas. I did mention to the concept to Chuck McIntyre in discussing his Management Information Systems project.

Some Reactions (continued)

Another concern I'd like to hear the consortium discuss is the format used in summarizing the follow-up survey results. As I stated, I hope we would get started here on the follow-up before the accountability component and I find myself thinking about the nitty-gritty of how to summarize what we might ask. There are so many possible permutations and combinations that I almost think I'd like to ask only one question which obviously would be a lost opportunity.

. . . . . .

Type of course

Current	AB1827 Montoya	AB2232	California Postsecondary Education Commission	Dept of Finance
1. Graded (credit	1. Adult	1. Academic	1. Basic Education	1. Basic Education
2. Adult (non-credit)	(a) Elementary diploma	2. Occupational/ Vocational	2. Occupational Education	2. Occupational Education
(a) General	(b) Secondary diploma	3. Avocational	3. Personal Development	3. Personal Development
(1)	(c) Americanization and E. S. L.	4. Recreational	4. Avocational/ Recreational	4. Recreation
(2)	(d) Apprenticeship		5. Community Development	5. Handicapped and Senior Citizens
(3)	(e) In compliance with State Vocational Education Plan		6. Education of Handicapped Adult	
(b) Special	(f) All other		7. Public and Personal Safety Training	
(1) Physical education				
(2) Crafts				
(3) Lecture series				
(4) Forum series				
3. Community Service				
4. Contract				

Purpose of course

Attachment to X.
Draft of letter

We have reviewed the changes to Title V sections 58120, 58121, 58122 and 58125 as proposed and can readily support them. Our staff has also reviewed the taxonomies under considerations by the Postsecondary Education Commission and the Department of Finance for Adult Education Courses. These, of course, will require legislative action before adoption and it is our understanding that a new taxonomy would be applicable to education of all types within the community colleges eliminating the artificial differentiation between graded courses and adult courses.

The C.I.D. code, Classification of Instructional Disciplines, has been adopted by your office for analytic purposes and we understand you have a new study effort underway on C.I.D. definitions, one of the outcomes of which would be to make them more applicable to ungraded courses.

Our concern is that we not be encumbered with many different taxonomies and suggest that a slight modification to the C.I.D. code might serve many purposes. A single character prefix might be developed; it could indicate the five priority levels "A" through "E" developed by the SAM consortium for occupational follow-up to indicate levels of priorites of occupational courses. The rest of the alphabet could be reserved for non-occupational courses. Then on the basis of the prefix, we could group courses to meet any of the various taxonomies suggested to date. For example, the Postsecondary Education Commission excludes high school courses from Basic Education whereas they are included in the Department of Finance proposal for Basic Education. If high school courses are given a separate prefix they would fall in the appropriate C.I.D. code for the particular discipline and could be aggregated separately for analytic purposes and included in whatever category is finally adopted by the Legislature by appropriately grouping on the prefix. A suffix system to be developed by each district might indicate the specific subject matter within the C.I.D. code and the level of the class.

Obviously the above is just an introduction to the course coding problem but we believe it does point to the direction of adopting one single, standard system for multiplicity of purposes, and we would hope that the California Community Colleges, the Postsecondary Education Commission and the Department of Finance could agree on a single taxonomy.

STUDENT ACCOUNTABILITY MODEL - EXTENSION
(SAM-X)

FOOTHILL-DE ANZA COMMUNITY COLLEGE DISTRICT
Office of Technical Education
12345 El Monte Road
Los Altos Hills, CA 94022

Chancellor's Office
California Community Colleges
William Morris, Evaluation Specialist

Ben K. Gold, Director of Research
Los Angeles City College
Project Coordinator

APRIL, 1977

ACKNOWLEDGEMENTS

The Foothill-De Anza Community College District is indebted to the many individuals who assisted in the development, organization, and implementation of the Student Accountability Model "Extension Project - SAM-X."

The Foothill-De Anza Community College District Office of Technical Education would like to extend sincere appreciation to the Campus Project Teams and a wide range of campus personnel, faculty, and counselors for the information and assistance they provided throughout the various phases of project development.

Special recognition should be given to the De Anza College Associate Dean of Students and Foothill College Dean of Students for their support, guidance, valuable comments and assistance in determining the methods and procedures and project design.

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Foothill-De Anza Community College District

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INTRODUCTION

The Student Accountability Model Extension Project SAM-X was sponsored by the Chancellor's Office, California Community Colleges, and was developed in cooperation with the Foothill-De Anza Community College District.

The major intent of the SAM-X project was to expand the existing Student Accountability Model SAM by developing a student follow-up system designed to obtain information from the "other-than-occupational" student population after they had left college.

The SAM-X project was developed and field tested by the Foothill-De Anza Community College District Office of Technical Education in close collaboration with Foothill and De Anza College administrators and selected campus personnel.

Project procedures and processes were continuously reviewed and monitored by the SAM consortium throughout the various stages of development and implementation. A final project report will be submitted to the Chancellor's Office, California Community Colleges. Guidelines for implementation will be combined with report data for dissemination.

OBJECTIVES

The major intent of the project was to expand the existing SAM* Occupational follow-up component by developing a flexible and effective follow-up system designed to identify and obtain information from the other-than-occupational student population after they had left college.

Objectives:

1. Develop operational methods and procedures for the identification and classification of the other-than-occupational student population.
2. Develop and identify methods and procedures for follow-up of the other-than-occupational student population.
3. Conduct a field test of the follow-up system.
4. Conduct a follow-up study of occupational and other-than-occupational students for data analysis and comparison.
5. Identify and compile flexible guidelines to facilitate replication of the follow-up system by other Community Colleges.

* Student Accountability Model Program is a computer program specifically designed to improve occupational student follow-up in California Community Colleges.

ASSUMPTIONS

The following assumptions were basic to the design of the project:

1. The major focus of the project would be directed to the identification of the activities, methods, and procedures involved in development and implementation of the follow-up system. It was not intended to generate a broad data base or employ complex analytical methods in analysis of data.
2. The follow-up system procedures would be designed to be integrated and compatible with the existing Student Accountability Model (SAM).
3. Successful replication of the follow-up system would be dependent upon:
   a. Previous implementation of SAM
   b. Use of materials developed to assist in implementation phase
   c. Reference to the 1977 SAM Operational Manual
   d. Comprehension of the total operational realm of SAM
   e. Competency of project personnel

LIMITATIONS

There were significant limitations and constraints encountered during the development and implementation of the project. For the purpose of this report, the following have been identified as the basic limitations:

1. Total time allocated for study
2. Time constraints imposed by holiday schedule
3. Number of students responding and information available
4. Scope of the questionnaire
5. Degree and accuracy in identifying student area of concentration (major)

DEFINITION OF TERMS

S.A.M.

Student Accountability Model Program measures the effectiveness of California Community Colleges' Occupational Education and Training Programs by providing a system for identification of occupational students and follow-up of occupational students to obtain information after they have left college.

S.A.M.-O.

Refers to the Student Accountability Model Program which conducts follow-up study on occupational students.

S.A.M.-X.

Refers to the Student Accountability Model Program which extends follow-up study to other-than-occupational students.

Other-Than-Occupational (O.T.O.)

Refers to all students not classified as Occupational student majors by S.A.M.

Area of Concentration

Refers to student major. A concentration exists when a student has completed 20 or more quarter units of course work in a level other than level 3.

Level 3 Courses

Courses which meet the general requirements of the college but do not clearly identify an area of concentration.

Level 2 Courses

Courses which may identify an area of concentration.

Level 1 Courses

Courses which clearly identify an area of concentration.

PROJECT REPORT

This project report is concerned with discussion and description of the methods, operational procedures, and project activities, rather than with the analysis and interpretation of data retrieved. The data relates to specific institutional finds and sample groups.

Samples of the data are included as concept examples. Identification of problems, limitations, considerations are included. The report is organized and presented in the following sequence:

A. Design of the Follow-up System
B. Data Collection
C. Population Identification
D. Design of Questionnaire
E. Data Processing Activities
F. Data Analysis
G. Dissemination
H. Conclusions and Recommendations

A. Design of the Follow-up System

The design and planning phase served as the basic foundation of the entire project. Design of the follow-up system involved these 6 basic elements:

1. Identification of the Project Staff and Campus participants
2. Review of Project Goals and Objectives
3. Development of a Time-line Schedule
4. Development of Data Collection Schedule
5. Identification of Data Analysis Methods and Procedures
6. Identification of Conditions and Constraints

Problems related to the development of these elements are located in another section of the report.

Identification of the project staff was accomplished as an initial step of preliminary planning. The participation and involvement of select campus personnel was also considered essential in providing information needed as well as assisting in design and planning of the system and data collection plan. The campus personnels were designated as project teams and closely collaborated with the project staff throughout the project development and implementation.

The Project Staff reviewed the project goals and objectives, established operational roles and responsibilities, and considered anticipated results, constraints, conditions and time-factors. Emphasis was placed on the need for

clarification of roles of all participants, as well as the specific objectives of the project. Major operational steps were identified and a planning calendar or time-line was developed (see page A-1). The initial time-schedule listed the key events and critical dates.

Due to time constraint and operational problems, the initial planning schedule was modified several times during the project. The key milestone generally overlapped the development task and concurrent estimates were planned (see page A-1). The project scope was from October 1976 through March 1977.

The research goals and objectives were determined by the project proposal. A review of the objectives was considered as most essential in establishing steps. Resources and constraints were reviewed (time, budget, staff, etc.) as they related to the proposed objectives.

With some projects there are definite methods and design and analysis, which in this case did not apply. Review of the "known" conditions and/or constraints was important in the design plan and contributed to the design of the system.

B. Data Collection

The Data Collection was central activity of the project during which a number of problems were encountered. The data collection plan was focused on the kind of data required and where and how it could be obtained.

It was considered essential to review the information sought--data processing resources; identification of possible data collecting technique and identification of existing conditions and constraints.

Specifically, it was necessary to determine what the data was, where it was located and when and how it would be collected.

Two methods of data collecting were identified and selected. Information from the other-than-occupational student who had left college was obtained by a follow-up questionnaire survey.

The data required to determine the area of specialization (major) and the pattern/category was obtained through a search of the student history file by the campus team (Evaluation Specialist).

As stated in the objectives, it was necessary to develop operational

methods and procedures for the identification and classification of the other-than-occupational student population.

The population was identified as, and limited to, those students who had completed 90+ units by the end of the Spring quarter 1976 and who were not presently enrolled.

The data collection procedures were designed to include a follow-up survey of the O.T.O. student population. The students area of concentration and pattern of courses was obtained from existing cumulative records.

An activities schedule was developed to obtain the information for classification of students and the operational steps involved were listed within the time frame of the project schedule (see page A-1).

The procedures listed on the Activities schedule were not necessarily performed in sequence, some overlapping was unavoidable, resulting in some of the described procedures being conducted concurrently.

As set by the objectives of the project, the population was identified as those students who had completed 90+ units at the end of the 1976 Spring quarter and were not presently enrolled.

The Population print-outs were used by the campus team evaluation specialist to conduct a search of the student records to determine the area of concentration and the classification (patterns) category. (See E. Data Processing Activities.)

The code used by the evaluation specialist were as follows:

A = A.A.
B = Eligible for AA but did not apply
C = Lacking course(s) in an identified major
D = Major completed but lacking General Education courses
E = Both C and D
E 0001 = General Education completed; major indeterminable
0001 = Insufficient information to determine status

The population referred to as SAM-0 (see group V, page 7) was identified in a previous follow-up study of the occupational students. The Data was used for comparison as stated.

C. Population Identification

The procedures followed were based upon the population of students completing 90+ units at the end of Spring quarter, 1976. The following were

the populations:

Group I. Student history files were scanned and students were identified, surveyed, and reported within two basic groups:

A---Those students who receive an Associate degree
B---Those students eligible for the degree who did not apply for or receive the degree

Group II. Includes all other groups not mentioned above:

C---Those who failed to complete pattern requirements
D---Those who failed to complete general education
E---Those who had shortcomings in both these areas

Group III. Groups A and B were segregated and studied by major field of study. (using CID and 0001 coding)

Group IV. Group II was segregated and studied and an attempt was made to identify their field of study. (using CID and 0001 coding)

Group V. All non-occupational students were studied in matched relationship with occupational students questioned in a simultaneous study. The respondents were further categorized by two separate factors: (1) whether an Associate degree was received, and (2) sex. The following information describes the groups that was compared:

SAM-O (occupational)	SAM-X (other-than-occupational)
(1) Associate degree	(5) Associate degree
(2) Cert. and Ach. B.	(6) 90+ units, no degree
(3) Male	(7) Male
(4) Female	(8) Female

1-5	3-7	1-2	5-6
2-6	4-8	3-4	7-8

In addition, there was a comparison between:

Foothill SAM-X with De Anza SAM-X
Foothill SAM-X with De Anza SAM-O
Foothill SAM-O with De Anza SAM-X
Foothill and De Anza SAM-X with all SAM-O

D. Design of the Questionnaire

In order to determine the content and scope of the questionnaire, unstructured interviews were conducted with administrative deans, counselors, and selected research oriented personnel. The interviews were guided by a set of 19 sample items which were presented for the groups comments, suggestions, and criticism and used as a base of reference for the sample questionnaire

design. The sample questionnaire was again reviewed and the final questionnaire compiled.

Two separate one-page 21 item questionnaires were printed. Each had identical statements with two different paper colors used. A non-respondent follow-up of the initial questionnaire was anticipated. Each questionnaire carried a message directed to the student regarding the questionnaire and signed by the college president from De Anza or Foothill College.

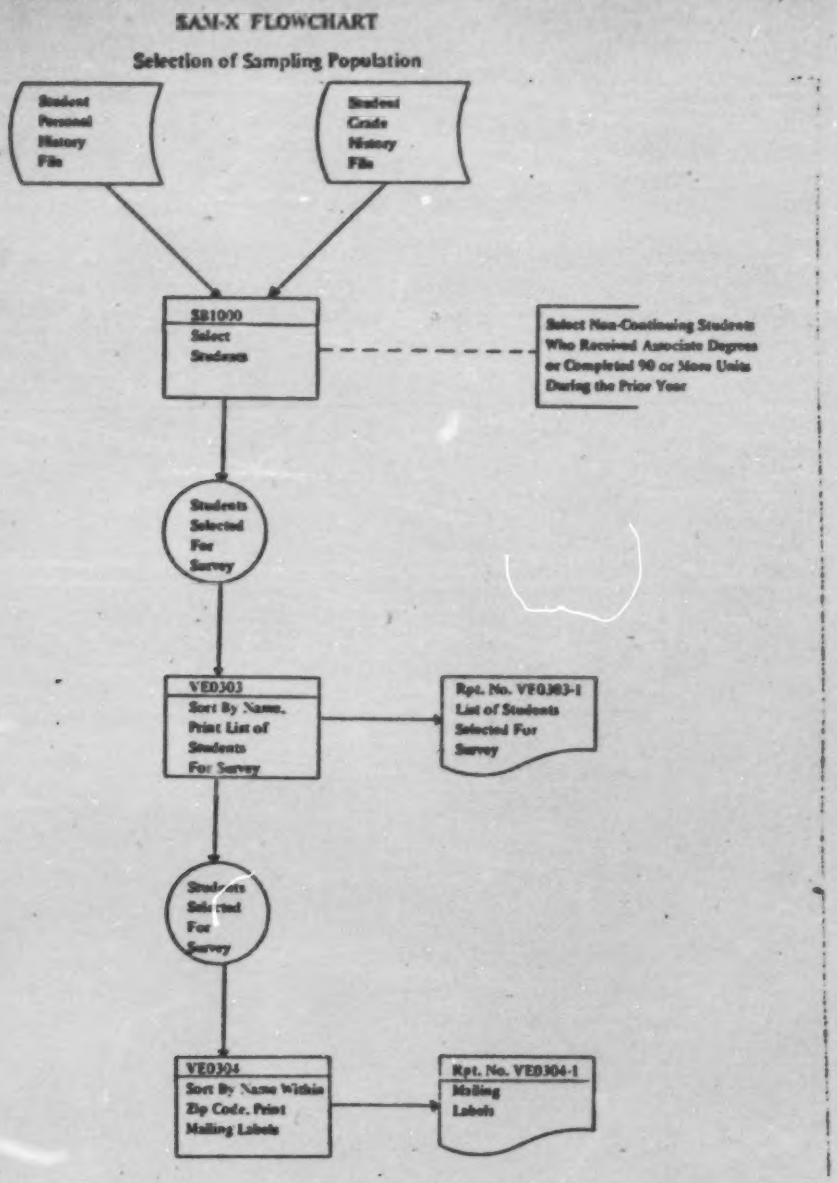
The problems encountered are discussed in another section of this report. The content of the specific nature of the items is not explored for the purpose of this report. The questions were designed to obtain information from the other-than-occupational student population concerning their opinions of college experience, continued education plans, employment status, and pay range. (See page A-4 for sample questionnaire.) Reference is made to the SAM Operational Manual, February 1977 as a resource for Questionnaire content and design.

Methods of mailing and a tentative mailing schedule were then determined.

E. Data Processing Activities

A computer program was written to search through the Student Personal History File and the Student Grade History File to select students who received Associate degrees during the previous academic year (Fall 1975, Winter, 1976, or Spring 1976 quarters) and those who did not receive degrees but were potential graduates by virtue of having completed 90 or more quarter units of college credit at some time during the same academic year. A magnetic tape containing information on the selected students is produced by the new computer program (SB1000 in accompanying flowchart) and used by a slightly modified version of existing program VE0303 to produce listings of the students showing the following data:

1. Name
2. Address
3. Telephone Number
4. Campus
5. Sex
6. Whether Associate degree or 90+ units


SAM-X FLOWCHART
Selection of Sampling Population
Student Personal History File
Student Grade History File
SB1000
Select Students
Select Non-Continuing Students Who Received Associate Degrees or Completed 90 or More Units During the Prior Year
Students Selected For Survey
VE0303
Sort By Name, Print List of Students For Survey
Rpt. No. VE0303-1 List of Students Selected For Survey
Students Selected For Survey
VE0304
Sort By Name Within Zip Code, Print Mailing Labels
Rpt. No. VE0304-1 Mailing Labels

Existing program VE0304 was used to produce address labels for mailing the questionnaires. The student's sex was printed in coded form on the address label to permit identification when the questionnaire was returned. The campus was designated by using a different campus letterhead on the questionnaire. (See accompanying samples) Programs VE0303 and VE0304 are documented more fully in the SAM publication entitled "Implementing Student Follow-up Computer System Specifications."

FOOTHILL-DE ANZA COMMUNITY COLLEGE DISTRICT
12345 El Monte Road
Los Altos Hills, CA 94022

THIRD CLASS
Permit No. 127
LOS ALTOS HILLS, CALIFORNIA

WHY?

90 FH N
DOE, JOHN
1234 ORTEGA DRIVE
LOS ALTOS HILLS, CA 94022

November 1974

TO: Former and Continuing Students

The Foothill College staff, in their efforts to provide you with excellent courses and services, periodically conducts surveys to find out if we are living up to your expectations. Our records indicate that you have either earned an Associate in Arts degree at De Anza or Foothill, or have completed 90 or more units at the College, but are enrolled in something other than your graduation major.

Your responses will be considered by many who can help us improve the College. We also will be tabulated and analyzed to assist the college's program planning.

Thank you for taking the time to complete this form.

Sincerely,

A. Robert DeHart, President
DE ANZA COLLEGE

Thank you for your response.

James L. Fitzgerald, Dean
FOOTHILL COLLEGE

Your responses will be considered by many who can help us improve the College. We also will be tabulated and analyzed to assist the college's program planning.

Thank you for taking the time to complete this form.

BUSINESS REPLY MAIL
No Postage Stamp Necessary If Mailed in the United States

-POSTAGE WILL BE PAID BY-

FIRST CLASS
PERMIT NO. 310
LOS ALTOS HILLS, CALIFORNIA

FOOTHILL-DE ANZA COMMUNITY COLLEGE DISTRICT
12345 El Monte Road
Los Altos Hills, CA 94022

FOOTHILL-DE ANZA COMMUNITY COLLEGE DISTRICT
12345 El Monte Road
Los Altos Hills, CA 94022

THIRD CLASS
Permit No. 127
LOS ALTOS HILLS, CALIFORNIA

WHY?

AA BA F
DOE, JANE
3764 NORTH AVENUE
CUPERTINO, CA 95012

November 1974

TO: Former and Continuing Students

The De Anza College staff, in their efforts to provide you with excellent courses and services, periodically conducts surveys to find out if we are living up to your expectations. Our records indicate that you have either earned an Associate in Arts degree at De Anza or Foothill, or have completed 90 or more units at the College, but are enrolled in something other than your graduation major.

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DE ANZA COLLEGE

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PERMIT NO. 310
LOS ALTOS HILLS, CALIFORNIA

FOOTHILL-DE ANZA COMMUNITY COLLEGE DISTRICT
12345 El Monte Road
Los Altos Hills, CA 94022

Program VE0302, which is normally used to select a sample of occupational students for the annual follow-up survey, was bypassed as it was decided to include all students selected by the new computer program. Program VE0301, which is normally used to select the non-continuing students, was bypassed as it was believed that the timing of the computer run would allow program SB1000 to identify non-continuing students based on data contained in the Student Personal History File. When the computer run was performed and all listings and labels had been printed, it was determined that this was not the case and continuing students had also been selected. Since we were working under a tight deadline, we elected to mail the questionnaires to all students for whom address labels had been printed.

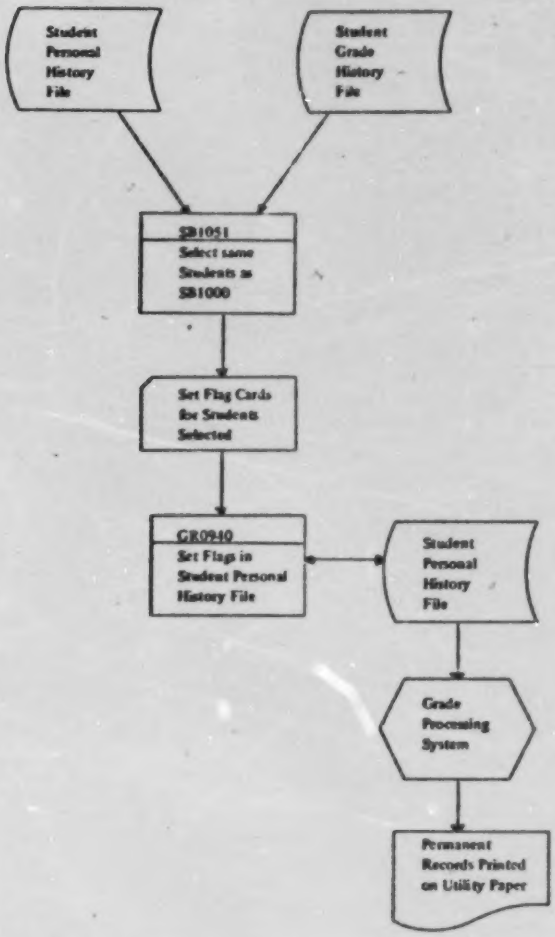
In the future the other-than-occupational students will be included in what is now the SAM Vocational Students File, identified by their present 'E' designation, and process them through the full range of the SAM-Occupational computer programs. It was also found that it would be convenient to print respondents' telephone numbers on the listing of students to be surveyed in order to follow-up the non-respondents on an individual basis and to print both CID and USOE numbers on the listing (CID only for other-than-occupational students) to facilitate the marking of respondents' areas of concentration if it is desired to analyze responses by area of concentration (our limited time frame did not permit this to be accomplished by the project deadline). Another recommendation is that the computer programs be designed to inhibit selection of students who have not obtained a certain minimum number of units at one of the District colleges (some students enter the District with 90 or more units and could be selected for the survey although their opinions will be based on very limited exposure to these colleges).

Prepare Permanent Record Listings for Coding of Areas of Concentration by Registrars

The computer program used to select students for the SAM-X was modified to punch a deck of IBM cards in the format required to serve as input to an existing program, GR0940, which flags (computer jargon for 'marks') records on the Student Personal History File (see accompanying flowchart) Our regular Grade Processing system will print permanent records for all students whose records have been flagged.

SAM-X FLOWCHART

Preparation of Permanent Record Listings


Student Personal History File
Student Grade History File
SB1051
Select same Students as SB1000
Set Flag Cards for Students Selected
GR0940
Set Flags in Student Personal History File
Student Personal History File
Grade Processing System
Permanent Records Printed on Utility Paper

The computer runs were made and the permanent records for all selected students were printed on standard fan-fold computer print-out paper rather than the expensive permanent record forms normally used for this purpose. The listings were printed separately for each campus and sent to the respective Registrars for coding of areas of concentration. For example of listing with coding, please see accompanying chart.

RPT. NO: YEG303-1
RUN DATE 11/23/76 LISTING OF STUDENTS SELECTED FOR SURVEY PAGE 212

NAME	STREET	CITY	STATE	ZIP	AA	CR	90	SEX
STEPHANIE P	201 W CALIFORNIA 109	SUNNYVALE	CALIF	94086	90		FH	F C-2248
GUADALU L	6867 CHIALA LN	SAN JOSE	CALIF	95129	90		FH	F
SHIRLEY M	6263 SHADYGROVE CT	SAN JOSE	CALIF	95129	90		FH	M
DAVID O	318 GLADYS APT 2	MT VIEW	CALIF	94040	90		FH	M E-V
ANITA J	1361 PARK DR	MT VIEW	CALIF	94043	90		FH	F B-4938
PATRICIA C	26835 ORTEGA DR	LOS ALTOS HILLS	CA	94022	90		FH	M E-1905
LYNN M	594 LEDGE LANE	MTN VIEW	CALIF	94040	90		FH	F L-1862
STEVEN M	1361 PARK DR	MT VIEW	CALIF	94040	90		FH	M E-premedmedgen-JC
JR WILLIS D	19940 OAKMONT DR	LOS GATOS	CALIF	95030	90		FH	M
ANTHONY	333 ESCUELA AVE	MT VIEW	CALIF	94040	90		FH	M E-V(ESOL)
CHARLES M	751 SAN JULE CT 2	SUNNYVALE	CALIF	94086	90		FH	M D-1501 (A<Asp2)
DEBBIE H	20800 VALLEY GR DR	CUPERTINO	CALIF	95014	90		FH	F
FRED L	ADCOM NAS MOFFETT	MT VIEW	CA	94035	90		FH	M
JACK L	6204 EXPRESS CT	SAN JOSE	CALIF	95129	90		FH	M D-4902
JULIE A	5858 LADONNA	PALO ALTO	CALIF	94301	90		FH	F E-premedmedgen JC
MARTHA M	12243 TEPA WY	LOS ALTOS HILLS	CALIF	94022	90		FH	F E-4902
POLLY E	815 LA PARA	PALO ALTO	CALIF	94306	90		FH	F
RALPH C	866 HAMPSTEN DR	MT VIEW	CALIF	94040	90		FH	M
SHAWN N	1229 VILLA ST 3	MT VIEW	CALIF	94041	90		FH	F
ARTHUR S	1301 11TH AVE	SAN FRANCISCO	CALIF	94122	90		FH	M
GWENDOLYN S	2003 COLONY AT NO 1	MT VIEW	CA	94043	90		FH	F B-2201
SCOTT	350 MONTCLAIRE AV	LOS ALTOS	CALIF	94022	90		FH	MC-1002
AUDREY A	120 CHURCHILL AVE	PALO ALTO	CALIF	94301	90		FH	F D-2401
SANDRA K	3148 SUNNYVALE AVE	SUNNYVALE	CALIF	94086	90		FH	F 0001
JEROME E	542 LOS NINOS DR	LOS ALTOS	CALIF	94022	90		FH	M

F. Data Analysis

The first step undertaken was review of analytical methods available. The basic methods reviewed were item analysis, cross-tabulation, and multiple regression analysis. Multiple regression analysis was rejected as being inappropriate for the data involved, since the data consisted of limited discrete values rather than truly variable values. In other words, comparison of those responding with answer A to question 1 to those responding with answer C to question 11 would have given a correlation coefficient of 1.0 since all those in this population who answered A to question 1 also answered C to question 11.

By utilizing codes marked onto the mark-sense cards it was determined that the cards could be machine sorted into whatever sub-groups were found to be significant. For example, the cards could be sorted into groups by sex within degree status for each campus and then item analysis could be run for each sub-group for the full range of survey questions. Then the cards could be re-sorted according to different criteria and more item analysis could be run. Item analysis was selected as the basic analytical method for the project. An annotated example accompanies this report.

It was also determined that it would be useful to compare the full range of answers to one question with the full range of answers to one or more different questions. An example is the comparison of reasons for attending college with the present academic status of respondents, e.g., of those who said they attended college to prepare for transfer, how many did transfer are currently pursuing their bachelor's degree, how many have decided not to transfer, how many might continue their studies in the future, etc. (and how many of those who came to college for specific vocational needs decided to pursue additional education, etc.) The individual colleges identified a number of cross-tabulations they wanted run for their own use apart from the project objectives. In some cases two-way cross tabulation was used (a two-dimensional matrix of responses to three selected questions was printed). The latter case results in the printing of a series of two-dimensional matrices. See example of cross-tabulations.

		A	B	C	D	E	NO ANS
Reason for Attending		Transfer	Initial Emp.	Better Job	Pers.Dev.	Other	
QUESTION 1	N	814	180	220	426	143	19
	PCT	45.1	9.9	12.2	23.6	7.9	1.0
Current enrollment		Foothill	DeAnza	Other ComCol	4 yr Col	None	
QUESTION 2	N	247	479	26	501	533	16
	PCT	13.7	26.5	1.4	27.8	29.5	0.8
Opinion of College		Excellent	Satisfactory	Poor			
QUESTION 3	N	1373	380	6	2	0	41
	PCT	76.1	21.0	0.3	0.1	0.0	2.2
Quality of Instruction		Excellent	Satisfactory	Poor			
QUESTION 4	N	1065	684	15	1	0	37
	PCT	59.1	37.9	0.8	0.0	0.0	2.0
Availability of Classes		Excellent	Satisfactory	Poor			
QUESTION 5	N	822	836	98	9	0	37
	PCT	45.6	46.3	5.4	0.4	0.0	2.0
Academic Counseling		Excellent	Satisfactory	Poor	Did Not Use		
QUESTION 6	N	375	689	335	362	1	40
	PCT	20.8	38.2	18.5	20.0	0.0	2.2
Occupational Counseling		Excellent	Satisfactory	Poor	Did not use		
QUESTION 7	N	180	474	241	858	2	47
	PCT	9.9	26.3	13.3	47.6	0.1	2.6
Pers. Growth Counseling		Excellent	Satisfactory	Poor	Did not use		
QUESTION 8	N	226	378	159	985	2	52
	PCT	12.5	20.9	8.8	54.6	0.1	2.8
Why not AA°		Not related	Had Degree	PersNeeds	Not all Req.	Other	
QUESTION 9	N	230	110	127	181	224	930
	PCT	12.7	6.1	7.0	10.0	12.4	51.6
Benefit from College		Ready for Tran	Employ Spec Emp.	Pers.Satis.	Other		
QUESTION 10	N	634	147	306	592	88	35
	PCT	35.1	8.1	16.9	32.8	4.8	1.9
Plans to Continue to BA		Enrolled	Later	Prob. Not	Definite No	Have BA	
QUESTION 11	N	579	541	263	21	378	21
	PCT	32.1	30.0	14.5	1.1	20.9	1.1
Will return?		Yes	No	Not sure			
QUESTION 12	N	1464	44	260	4	2	28
	PCT	81.2	2.4	14.4	0.2	0.1	1.5
Present Employment		Full Time	Part Time	Not Working	Looking	Military	
QUESTION 13	N	808	413	127	415	11	28
	PCT	44.8	22.9	7.0	23.0	0.6	1.5
Employed Prior to College		Full Time	Part Time	Not Working			
QUESTION 14	N	747	576	428	2	0	49
	PCT	41.4	31.9	23.7	0.1	0.0	2.7
Prior Emp. what present		Same Field	Same Better	Diff Better	Diff Not Better		
QUESTION 15	N	249	269	378	135	0	771
	PCT	13.8	14.9	20.9	7.4	0.0	42.7
EdExperience betterment		Very Much	Same	Hardly at all			
QUESTION 16	N	468	460	289	2	0	583
	PCT	25.9	25.5	16.0	0.1	0.0	32.3
Present Position		CloselyRelated	Gen.Useful	Little or no			
QUESTION 17	N	473	483	269	1	0	577
	PCT	26.2	26.8	14.9	0.0	0.0	32.0
ColImportant in getting job		Not at all	Some	A great deal	No.Already employed		
QUESTION 18	N	236	335	453	203	0	575
	PCT	13.0	18.5	25.1	11.2	0.0	31.9
When 1st employed		Had Position	Month-less	1-3 mos.	More than 3 mos		
QUESTION 19	N	689	145	153	121	2	693
	PCT	38.2	8.0	8.4	6.7	0.1	38.4

			Transfer	Initial Emp.	Better Job	Pers. Dev.	Other	No Ans.
Reason for Attending	QUESTION 1		A	B	C	D	E	OTHERS
Opinion of College	QUESTION 3	A Excellent	259	61	82	159	45	4
		B Satisfactory	77	16	20	42	21	0
		C Poor	0	0	0	3	1	0
		D	0	0	1	0	0	0
		E	0	0	0	0	0	0
		OTHERS	4	2	1	5	3	0
see above	QUESTION 1		A	B	C	D	E	OTHERS
Benefit from College	QUESTION 10	A Ready/Trans.	204	1	10	19	13	0
		B Employ.	9	15	22	13	4	0
		C Spec Emp.	23	44	42	10	26	0
		D Pers. Satis.	87	17	31	151	17	4
		E Other	12	1	3	11	10	0
		OTHERS	5	1	2	5	0	0
	QUESTION 1		A	B	C	D	E	OTHERS
Plans to Continue to BA	QUESTION 11	A Enrolled	171	5	13	27	16	1
		B Later	169	34	39	70	22	0
		C Prob not	10	25	26	53	8	1
		D Definite No	1	1	1	3	2	0
		E Have BA	47	14	29	56	22	2
		OTHERS	2	0	2	0	0	0
			Foothill	De Anza	Other ComCol	4 yr Col	None	
Current enrollment	QUESTION 2		A	B	C	D	E	OTHERS
Why not AA°	QUESTION 9	A Not related	2	38	0	63	13	1
		B Had degree	2	31	1	8	25	0
		C Pers Needs	6	34	1	8	20	0
		D Not all req.	9	71	2	12	17	0
		E Other	6	79	3	21	25	0
		OTHERS	19	116	5	72	94	0
			Excellent	Satisfactory	Poor	Did not use		
Academic Counseling	QUESTION 6		A	B	C	D	E	OTHERS
Benefit from College	QUESTION 10	A Ready/Trans.	55	96	51	44	0	1
		B Employ.	14	22	7	20	3	3
		C Spec Emp.	28	56	30	30	0	1
		D Pers. Satis.	58	117	45	80	1	6
		E Other	7	9	7	14	3	3
		OTHERS	2	2	3	5	0	1
see above	QUESTION 6		A	B	C	D	E	OTHERS
Plans to continue to BA	QUESTION 11	A Enrolled	49	86	56	41	0	1
		B Later	59	126	47	51	1	0
		C Prob not	20	40	22	28	3	3
		D Definite No	0	4	3	4	0	0
		E Have BA	25	55	17	69	3	4
		OTHERS	1	1	1	0	0	1

Determination of the groups and sub-groups for which data was needed for the project was then made. The original scope was narrowed somewhat after sober reflection on the large amount of data collected and the vast amount of data about to be created with the item analysis runs.

The mark-sense cards were received from the Office of Technical Education and were mark-sensed on the IBM 519 Reproducer, which reads the card and punches holes in the cards corresponding to the marks on the face of the cards. A duplicate copy of the cards was then made to be used for the computer run while the original deck of cards was retained by the Office of Technical Education for back-up purposes and for evaulation of the open-ended responses.

Ninety-two (92) item analysis runs on the computer were made using existing computer programs which are commonly found at colleges having computer facilities. The final data format was then determined and the number responses and corresponding percentages from the appropriate item analysis were transcribed onto forms which had been typed and pre-printed with everything except the column headings and responses. The results were then typed onto another set of the pre-printed forms (examples included).

S.A.M. SURVEY

De Anza College -- Fall 1976

	OCCUPATIONAL						NON-OCCUPATIONAL						COMBINED					
	Degree		90+		Total		Degree		90+		Total		Degree		90+		Total	
hat single statement best describes your major reason or attending Foothill or De Anza College?																		
. To prepare for transfer	27	44%	64	43%	91	44%	97	51%	276	42%	373	44%	124	49%	340	42%	464	44%
. To prepare for first job	11	18%	12	8%	23	11%	18	9%	67	10%	85	10%	29	11%	79	10%	108	10%
. To get a better job	7	11%	30	20%	37	18%	20	10%	80	12%	100	12%	27	11%	110	14%	137	13%
. Personal development	11	18%	27	18%	38	18%	37	19%	182	27%	219	25%	48	19%	209	26%	257	24%
. Other	6	9%	15	10%	21	0%	18	10%	54	8%	72	9%	24	10%	69	8%	93	9%
. No response	0	0%	1	1%	1	0%	1	1%	3	1%	4	0%	1	0%	4	0%	5	0%
	62	100%	149	100%	211	100%	191	100%	662	100%	853	100%	253	100%	811	100%	1064	100%
re you currently attending college?																		
. Yes--Foothill	2	3%	4	2%	6	3%	3	1%	42	7%	45	5%	5	2%	46	6%	51	5%
. Yes--De Anza	11	18%	16	11%	27	13%	36	19%	353	53%	389	46%	47	19%	369	45%	416	39%
. Yes--other Comm. College	3	5%	1	1%	4	2%	0	0%	11	2%	11	1%	3	1%	12	1%	15	1%
. Yes--4 year college	23	37%	50	34%	73	35%	89	47%	134	20%	223	26%	112	44%	184	23%	296	28%
. No	23	37%	78	52%	101	47%	62	32%	121	18%	183	22%	85	34%	199	25%	284	27%
. No response	0	0%	0	0%	0	0%	1	1%	1	0%	2	0%	1	0%	1	0%	2	0%
	62	100%	149	100%	211	100%	191	100%	662	100%	853	100%	253	100%	811	100%	1064	100%

	OCCUPATIONAL						NON-OCCUPATIONAL						COMBINED					
	Male		Female		Total		Male		Female		Total		Male		Female		Total	
Best single statement best describes your major reason attending Foothill or De Anza College?																		
To prepare for transfer	54	49%	37	37%	91	44%	176	49%	197	40%	373	44%	230	49%	234	39%	464	44%
To prepare for first job	4	4%	19	19%	23	11%	21	6%	64	13%	85	10%	25	6%	83	14%	108	10%
To get a better job	17	15%	20	20%	37	18%	45	13%	55	11%	100	12%	62	13%	75	12%	137	13%
Personal development	29	26%	9	9%	38	18%	87	24%	132	27%	219	26%	116	25%	141	24%	257	24%
Other	7	6	14	14%	21	9%	27	8%	45	9%	72	8%	34	7%	59	10%	93	9%
No response	0	0%	1	1%	1	0%	1	0%	3	0%	4	0%	1	0%	4	1%	5	0%
	111	100%	100	100%	211	100%	357	100%	496	100%	853	100%	468	100%	596	100%	1064	100%
Are you currently attending college?																		
Yes--Foothill	4	4%	2	2%	6	25%	21	6%	24	5%	45	5%	25	5%	26	4%	51	5%
Yes--De Anza	15	13%	12	12%	27	10%	157	44%	232	47%	389	46%	172	37%	244	41%	416	39%
Yes--other Comm. College	0	0%	4	4%	4	1%	5	1%	6	1%	11	1%	5	1%	10	2%	15	1%
Yes--4 year college	37	33%	36	36%	73	27%	92	26%	131	26%	223	26%	129	28%	167	28%	296	28%
No	55	50%	46	46%	101	37%	81	23%	102	21%	183	22%	136	29%	148	25%	284	27%
No response	0	0%	0	0%	0	0%	1	0%	1	0%	2	0%	1	0%	1	0%	2	0%
	111	100%	100	100%	211	100%	357	100%	496	100%	853	100%	468	100%	596	100%	1064	100%

The cross-tabulations were then prepared for the individual colleges according to their expressed needs. Additional cross-tabulations will be run for future in-depth analysis when requested by the colleges and the Office of Technical Education.

G. Dissemination

The dissemination of findings includes the final project report and the institutional findings obtained from data analysis of the sample group responses.

The final project report, including procedural aspects, will be sent in limited quantity to the California Community College Chancellor's Office.

The findings related directly to the institution, test site and sample groups, and reports of the procedural will be distributed to the District Technical Education Council, and other appropriate campus personnel.

H. Conclusions and Recommendations for the Design of Future Student Follow-up Activities and Procedures

The SAM-X project as an extension of SAM, did develop and test a follow-up system designed to obtain information from the other-than-occupational

student population after they had left college.

Specifically, the project accomplished the following:

1. A follow-up system, designed as an extension of SAM, did develop and was tested to obtain information from the other-than-occupational student population.
2. Specific Operational procedures and methods were developed, identified, and described.
3. A follow-up study of occupational and other-than-occupational students was conducted and the data was analyzed, compared, and compiled for institutional dissemination.

The following conclusions and recommendations for the design of future student follow-up activities and procedures were based on the findings of this study:

1. The participants involved in the development and planning of the follow-up study may have different needs, and seek varied type of data. It is essential that a consensus be reached regarding the research data sought and why it is needed.
2. The interaction of the project staff members and the campus project team is considered to be of primary importance and the roles and responsibilities of all participants should be clearly defined and stated in relation to individual ability, time, availability, realm of responsibility and activities assigned. Constraint should be realistically identified early in the planning phase.

   It is recommended that participants involved in the study be fully informed about their responsibilities and realistically assess the ability to fully participate as required.
3. Documentation of all steps of the campus activities is essential and on-site monitoring provides the project campus team with assistance and support from the project staff. It is recommended that time for interval visitations to monitor the project campus team activities be provided and that documentation of all procedures be recorded for accurate reporting.
4. Implementation of data collection procedures by the campus team requires previous preparation and orientation. This information and preparation is best accomplished in person rather than by memo or letter.

   It is recommended that design include campus team preparation, on-site assistance, and adequate orientation concerning project and data collecting techniques.

/DP/	a	Identify methods and procedures					
/DP/	b	Identify populations					
/PS	c	Develop/Refine Questionnaires					
/PS	d	Receive/Refine print-out lists & labels					
	e	Initial mailing of questionnaire					
	f	Mailing of 2nd questionnaire (follow-up)					
/DP/	g	Identify coding systems for population					
/CT	h	Print-out list to campuses for analysis of students history files to determine status/major					
	i	Mark-sense responses/status/major on cards					
	j	Sample run (item analysis)					
/CT/	k	Review, confirm, revise procedures to accomplish goals & objectives					
	l	Submit & process all mark-sense cards					
/PS	m	Conversion & coding of mark-sense cards to 80 column for data analysis					
	n	Run item analysis by variables					
/CT /PS	o	Identify, determine, and select match/ comparison items (SAM-X)					
/DP	p	Cross Tabulation Run correlation on selected matched items					
/DP	q	Analysis & interpretation of tables & data					
/CT /PS	r	Identify, determine, & select match/com-parison items (SAM-X & SAM-O)					
/DP	s	Cross Tabulation Run correlation on selected matched items					
/DP	t	Analysis & interpretation of tables & data					
/CT/ /DP/	u	Conclusion, recommendation, & appendix					
	v	Complete final project report					

CD - Campus Deans; CT - Campus Teams; DA - Data Analyst;
DP - Data Services; PS - Project Staff

STATISTICAL BREAKDOWN OF QUESTIONNAIRES MAILED AND RESPONSES RECEIVED

Original mailing - 11/29/76

De Anza AA	- 693
De Anza 90+	- 3,377
Foothill AA	- 381
Foothill 90+	- 2,567
Total mailed	- 7,018

Follow-up mailing - 1/19/77

De Anza AA	- 555
De Anza 90+	- 2,935
Foothill AA	- 312
Foothill 90+	- 2,250
Total mailed	- 6,052

1/14/77 - cut off date of receiving original mailing

2/24/77 - cut off date of receiving rest of mailing

	De Anza		Foothill		Both	
AA mailed	693		381		1,074	
Returns as of 1/14	148	(21%)	87	(23%)	235	(22%)
Total non-return	545		294		839	
Returns as of 2/24	105		24		129	
Non-returns	440		270		710	
TOTAL RETURNS	253	(37%)	111	(29%)	364	(34%)
90+ mailed	3,377		2,567		5,944	
Returns as of 1/14	576	(17%)	384	(15%)	960	(16%)
Total non-return	2,801		2,183		4,984	
Returns as of 2/24	235		222		457	
Non-returns	2,566		1,961		4,527	
TOTAL RETURNS	811	(24%)	606	(24%)	1,417	(24%)
Total AA & 90+ mailed	4,070		2,948		7,018	
Returns as of 1/14	724	(18%)	471	(16%)	1,195	(17%)
Total non-return	3,346		2,477		5,823	
Returns as of 2/24	340		246		586	
Non-returns	3,006		2,231		5,237	
TOTAL RETURNS	1,064	(26%)	717	(24%)	1,781	(25%)

sg:2/28/77

1976-77 SAM-X POPULATION SELECTED

	AA° Mailing	AA° Returns	% Returns
De Anza	693	253	37
Foothill	381	111	29
District	1074	364	34

	90+ Units Mailing	90+ Units Returns	% Returns
De Anza	3377	811	24
Foothill	2567	606	24
District	5944	1417	24

	Combined AA° & 90+ Mailing	Combined AA° & 90+ Mailing	% Returns
De Anza	4070	1064	26
Foothill	2948	717	24
District	7018	1781	25

1976-77 SAM-X RETURNS

	Foothill	De Anza	District
Occupational	161	211	372
Male	92	111	203
Female	69	100	169
Non-Occupational	556	853	1409
Male	242	357	599
Female	314	496	810
Combined	717	1064	1781
Male	334	468	802
Female	383	596	979
Occupational	161	211	372
AA°	30	62	92
90+	131	149	280
Non-Occupational	556	853	1409
AA°	81	191	272
90+	475	662	1137
Combined	717	1064	1781
AA°	111	253	364
90+	606	811	1417

RJT:sgl
3/31/77

Los Altos Hills, CA 94022

NAME_____

ADDRESS_____

_____ Zip _____
City State

Phone No._____

PLEASE ANSWER ALL OF THE FOLLOWING QUESTIONS:

1. What single statement best describes your major reason for attending Foothill or De Anza College?
   a.____To prepare for transfer
   b.____To prepare for initial employment (other than part-time)
   c.____To help me get a better job
   d.____Personal Development or Enrichment
   e.____Other: Please specify:_____
2. Are you currently attending College?
   a.____Currently enrolled at Foothill
   b.____Currently enrolled at De Anza
   c.____Currently enrolled in community college other than a. or b.
   d.____Currently enrolled in four year college (specify)_____
   e.____Not currently enrolled in college

Please rate the following according to your Foothill/De Anza experience

	Excellent	Satisfactory	Poor	
3. General opinion of Foothill/De Anza	a.___	b.___	c.___	
4. Quality of instruction	a.___	b.___	c.___	Did not
5. Availability of classes needed/wanted	a.___	b.___	c.___	Use
6. Counseling for academic program	a.___	b.___	c.___	d.___
7. Counseling for occupational choice	a.___	b.___	c.___	d.___
8. Counseling for personal growth/concerns	a.___	b.___	c.___	d.___

9. If you did not receive an AA degree, which of the following best describes your reason for not petitioning for the degree?
   a.____Did not complete all AA degree requirements because they were not related to my transfer plans
   b.____Did not try to meet all AA degree requirements because I already had a degree
   c.____Only took courses on the basis of personal needs/interests (other than preparing to transfer)
   d.____Had hoped to receive a degree but found I hadn't yet met all requirements
   e.____Other. (Please specify)_____
10. What single statement describes themost significant benefit you feel you received from your De Anza or Foothill College experiences.
    a.____Readiness for transfer
    b.____Better general employability
    c.____Employability in a specific field
    d.____Increased general personal satisfaction(self confidence, etc.)
    e.____Other (specify)_____
11. Do you plan to continue your college education to a bachelor's degree?
    a.____Yes, currently enrolled
    b.____Yes, but later
    c.____Probably not
    d.____Definitely not
    e.____Already have bachelor's degree
12. Do you think you will return to this or any college for additional education in the future?
    a.____Yes b.____No c.____Not sure
13. What is your present employment status?
    a.____Working full-time (30 hours per week or more)
    b.____Working part-time (less than 30 hours per week)
    c.____Not working, looking for a job
    d.____Not working, not looking for a job
    e.____Military Service
14. Were you employed prior to your college experience?
    a.____Yes, full time b.____Yes, part-time c.____No

PLEASE ANSWER THE FOLLOWING QUESTIONS IF PRESENTLY EMPLOYED

15. If you were employed before your college experience, are you presently employed in:
    a.____Same field, same position
    b.____Same field, better position
    c.____Different field, better position
    d.____Different field, not a better position
16. To what extent did your Foothill/De Anza educational experience assist you to acquire skills and knowledge applicable to your present job.
    a.____Very much b.____Some c.____Hardly at all
17. Which single statement best describes your present position?
    a.____In an occupation closely related to my college experience
    b.____In an occupation for which my college experience provided generally useful, though not specific, preparation.
    c.____In an occupation for which my college experience seems to be of little or no assistance.
18. Do you feel that your college experiences were an important plus factor in getting your present job?
    a.____Not at all b.____Some c.____A great deal d.____No, already employed
19. After leaving college, when were you first employed?
    a.____I had the position while attending college
    b.____A month or less
    c.____One to three months
    d.____More than three months
20. What is your current rate of pay?
    a.____$2.50--2.99 per hour
    b.____$3.00--3.99 per hour
    c.____$4.00--4.99 per hour
    d.____$5.00--5.99 per hour
    e.____$6.00 or more per hour
21. Please name the three college courses (of two units or more) that were of most help to you in your present employment.
    a._____ b._____ c._____

Thank you for completing and returning this questionnaire.

A-4

Sample of Project Specialist Procedures

ACTIVITY	DESCRIPTION	RESOURCES
1. Cleaning up the lists	Pulled all duplicated names (AA names from 90+ list and vice-versa. Pulled occupational students from just the AA listings.	Print-outs from Data Services
2. Cleaning up the labels	Same as above.	Labels from Data Services
3. Mailing of questionnaires	Label the questionnaires. Sort by zip code and mail bulk.	
4. Receiving returned questionnaires	Separate questionnaires into AA & 90+ and by campus. Take number count of these questionnaires. Alphabetize the questionnaires still separated by campus, AA, & 90+. Check-off on the listings the questionnaires that have been returned.	
5. Record responses	Stamp questionnaires and mark-sense cards. with corresponding numbers (for identification purposes). Record questionnaires' responses on mark-sense cards. Record other vital information such as sex, campus, major).	Obtain vital information from campus print-outs.
6. Data Analysis	Take mark-sense cards to Data Services. Duplicate deck on IBM Reproducer. Run item analysis. Run cross-tabulations. Type statistical charts.	

A-5

Sample of Evaluation Specialist Procedures

ACTIVITY	DESCRIPTION	RESOURCES
Determine and list the major field of study of each student. Determine and list what pattern the student followed.	Evaluation of the student's cum record to determine: 1. Graduation requirement. 2. Major pattern followed. 3. If none of the above was followed.	Curriculum sheet (for majors) General Education certification State college requirement Permanent records

A6

EXAMPLE OF A PROBLEM THAT MAY OCCUR:

If a student has a biology sequence, it becomes difficult to determine a major field of study for him, because he could be going into forestry, pre-med, etc.. Thus, it may be better to organize specific broad majors to categorize students.

SUGGESTIONS:

Narrow the program to delete all students who received previous AA degrees.
Redefine coding of vocational and non-vocational students.

APPENDIX E-2

CERRITOS COMMUNITY COLLEGE DISTRICT

Office of Institutional Research

SAM EXTENSION FIELD TEST RESULTS

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March, 1977

ABSTRACT

Cerritos College participated in the field test of extending the methodology of the Student Accountability Model (SAM) by conducting a mail survey of former non-occupational students. A sample of 1,980 students received the initial mailing of the questionnaire; a second mailing was sent to nonrespondents. The response rate for the survey was 20 percent. Several possible biases in the survey response were identified. The questionnaire items are presented with total response frequencies and by subclassifications of male and female. However, no major trends were identified as being related to the sex of the respondents. The SAM methodology was found to classify students as non-vocational with 90 percent accuracy. A number of comparisons were made between the respondents to the SAM vocational follow-up and the field test of non-occupational students. The results indicate that extending the SAM procedures to the former non-occupational students produced useful follow-up information.

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BACKGROUND

A Student Accountability Model (SAM) was developed and implemented by a consortium of community colleges to provide useful follow-up information on occupational students who have terminated from college. The methodology developed through SAM classifies the non-returning students by their assigned major (determined by course enrollment) and by their accomplishment. Accomplishment levels determined by the SAM procedure are: Graduate, Certificate, Achiever, Partial Completor, and Non-completor. A survey instrument used in SAM provides data on the former students' current employment status, the usefulness of their occupational training in securing employment, and whether or not students are continuing their education at a different institution. Additionally, the students were asked to evaluate their college experience. The results from SAM would be useful in completing state and federal vocational education forms, and provide input for program evaluation by the college.

PROBLEM STATEMENT

The SAM methodology has presented community colleges with a potentially powerful program evaluation tool for vocational areas. The usefulness of SAM leads one to speculate about its potential value for supplying a follow-up technique for non-occupational majors. However, the extension of the SAM procedures to non-occupational majors is beset with several problems. Some of the SAM procedures are specific to occupational courses and these procedures may not be compatible with with non-occupational courses. For example, the method by which occupational students are assigned a major does not appear to be a valid method for assigning non-occupational students to a major. Also, the determination of the Achiever accomplishment category would not be equivalent for occupational and non-occupational courses. For the occupational students, Achievers are determined by completing

at least one vocational course, whereas non-vocational Achievers are identified as completing seven or more units.

The questionnaire developed for SAM was optimized in terms of the data needed for completing required enrollment and follow-up forms. A major emphasis of SAM is determining the job success of the non-continuing vocational students. For non-occupational students, the emphasis of the questionnaire would need to be broadened to include, for example, more information on the satisfaction of students who have transferred to another college. This would allow colleges to evaluate the specific services needed and problems encountered by transfer students.

The purpose of the field test plan was, therefore, to develop a mail questionnaire to provide information to the college concerning the needs of the former non-occupational students. At the same time, it was decided to include certain items from the SAM vocational questionnaire in order to allow specific comparisons between the vocational and non-vocational groups. The data collected in the survey would also be used to analyze a number of objectives concerning the feasibility of extending the SAM follow-up procedure to the non-occupational students.

OBJECTIVES

The objectives of the Cerritos College SAM Extension Field Test were the following:

1. To determine how many students identified by SAM as non-occupational were in fact occupational.

2. For those who are occupational, determine the reasons they were not identified as such by SAM.

3. To determine the major and/or the specific reason why each non-occupational student was attending college.

4. To determine the reasons non-occupational students did not return to college.

5. To determine the students' assessment of the Cerritos College program in general.

6. To determine if the courses taken by the student at Cerritos met his educational objectives.

7. To identify any additional services which former students feel should be improved or those which should be added.

8. To determine if different follow-up questions or procedures should be used for students taking less than seven (7) units in the past semester.

9. To identify any major differences between the educational goals and employment characteristics of vocational versus non-vocational non-returning students.

10. To identify any major differences between male versus female non-occupational respondents.

PROCEDURE

The mail survey instrument was developed in consultation with interested faculty, administrators, and counseling personnel. The questionnaire was designed to be a self-mailing format so that the respondents re-folded it to expose the college's address for return mailing. Questions 1 through 11 on the questionnaire (see Appendix A) were also included on a mail survey of occupational students that ran concurrently with the non-occupational survey.

A second questionnaire was sent to nonrespondents. It was identical to the initial

questionnaire except that it included the following brief message:

> Help!
> Recently we mailed you an important survey form. If you have already returned it, please consider this note as a "Thank you" for your valuable help. If you have not had a chance to do so as yet, may we ask you to please complete and return this second form now?

The SAM methodology was employed during October, 1976 and identified 5,762 non-vocational students who had been enrolled in Spring, 1976 but not in Fall, 1976. This figure included 199 Graduates, 5 Certificates, 585 Achievers, 1,752 Partial Completors, and 3,221 Non-completors. A survey sample of 1,980 students was then selected according to the following: all Graduates, all Certificates, all Achievers, one-half of the Partial Completors, and one-tenth of the Non-completors. The Partial and Non-completors were selected by dividing their respective categories into male and female, and then having the computer select every second Partial Completor or every tenth Non-completor.

The questionnaire was sent to the sample the week of November 15, 1976. The response of the first mailing was 14.4 percent. A second questionnaire was mailed to nonrespondents the first week of January, 1977. A total of 371 surveys were returned properly filled out. The number of questionnaires returned as undeliverable was 123. The response rate for the survey was 20 percent.

A telephone interview of a random sample of 50 of the nonrespondents was conducted to estimate the representativeness of the mail respondents. Usable information was collected from 47 of the nonrespondents or their relatives.

DATA PROCESSING

The returned surveys were coded onto keypunch sheets for keypunching and computer analysis. Over 99% of the self-mailing questionnaires were returned with the students' names still on them. The name was used to locate the student number

from the survey sample name list. This process allowed for the possibility of analyzing the survey responses in conjunction with the Student Master File data. For example, Table 1 which is a comparison of the respondent characteristics to those of the survey sample, was generated in this manner. As an aid to coding the surveys, Xerox transparencies were made so that when placed over the survey, it indicated in which columns to code the data on the keypunch sheets.

RESPONSE REPRESENTATIVENESS

A survey with a low response rate, such as the 20 percent figure for this study, always leads to the rather perplexing question of how representative is the response. The answer is usually approached by assuming the response to be biased and then trying to isolate the specific areas of bias. This approach will hopefully indicate which, if any, sub-groups of the population were adequately represented in the returns. Another approach is to contact a sample of nonrespondents and gather information that will identify relevent differences between the respondents and nonrespondents. Both of these approaches were employed in this study and will be discussed below.

As one check on how biased the response was, a comparison of the ethnic and sex characteristics of the respondents to those of the sample was done. Table 1 lists the frequencies and percentages of these check characteristics. According to the SAM Procedure Manual, the respondent characteristics for a 20 percent return on a sample of 2,000 should be within plus or minus 4 percent of the sample value for the check characteristic. Table 1 indicates that Caucasian females comprised 35.5 percent of the sample and that they accounted for 47.4 percent of the respondents. Thus, female Caucasians were over-represented in the survey. Similarly, Table 1 shows that Mexican American females were 5.4 percent of the respondents, a figure well within 4 percent of the sample value of 6.6 percent.

Table 1

Comparison of Survey Sample Characteristics to Respondent Characteristics

Sample Characteristics

	American Indian	Caucasian	Mexican American	Black	Asian	Other
Male	16	789	186	20	35	32
	0.8%	39.7%	9.4%	1.0%	1.8%	1.6%
Female	10	706	132	14	24	22
	0.5%	35.5%	6.6%	0.7%	1.2%	1.1%
Total	26	1,495	318	34	59	54
	1.3%	75.3%	16.0%	1.7%	3.0%	2.7%

Respondent Characteristics

	American Indian	Caucasian	Mexican American	Black	Asian	Other
Male	2	131	19	2	4	6
	0.5%	35.3%	5.1%	0.5%	1.1%	1.6%
Female	1	176	20	0	5	5
	0.3%	47.4%	5.4%	0.0%	1.3%	1.3%
Total	3	307	39	2	9	11
	0.8%	82.7%	10.5%	0.5%	2.4%	2.9%

A brief telephone interview was conducted on a random sample of 50 nonrespondents; relatives were asked the questions if the former student was not available. The data from 47 interviews is presented in the Telephone Survey of Nonrespondents (TSN) section of this report. For example, Question 1, "What is your present employment?" indicates that 53.2 percent of the nonrespondents interviewed are employed full-time. In contrast, Question 8 of the Mail Survey Results (MSR) section shows that 39.1 percent of these respondents are employed full-time. Question 3 of the TSN section compared to Question 9 of the MSR section, shows that 38.3 percent of nonrespondents are attending college compared to 51.2 percent of the respondents. This is interesting because the percentages for these two groups are reversed for being employed full-time and attending college. More of the nonrespondents are working full-time and not continuing their college education as compared to respondents. The nonrespondents are less likely to return to Cerritos College (33.3 percent) than respondents (48.9 percent). However, the percentage of those who indicated they would continue their education at another college was close for the two groups; 25.9 percent of nonrespondents and 21.3 percent of respondents.

The preceding analyses have shown that a number of differences exist between the mail survey respondents and nonrespondents; Caucasian females are over-represented, Mexican Americans are under-represented, and college transfer students are possibly over-represented. Admittedly, identifying such limitations does not solve the response bias problem, but does allow some useful interpretations of the survey results. For example, knowledge that Caucasian females are over-represented in the totals allows for a more accurate interpretation of the Mail Survey Response section. One would expect, on the average, that more females than males would answer any given questionnaire item. Thus, the simple response percentages listed for males and females need to be interpreted in relation to deviation from "expected" frequencies.

FINDINGS

This section will discuss the project results relevant to the goals listed in the Objectives section. The responses to the individual questionnaire items are presented in the Mail Survey Results section.

Objectives one and two were concerned with how many vocational students might be classified as non-vocational and determining the reasons why they were not identified properly. Of the 371 respondents, 76 reported themselves to be occupational majors. While some discrepencies between SAM major assignment and students' major declarations are inevitable, the over 20 percent discrepency seemed to warrant a detailed review of the SAM procedure as implemented at Cerritos College. The Spring, 1976 coursework for each of the 76 students was checked against the SAM criteria for assignment as a vocational or non-vocational major. Only nine students were found to be enrolled in vocational courses with a priority of "C" or higher. Further analysis of these nine students revealed that three of them had been enrolled in a class offerred on local television and should not have been included at all; four of the students had enrolled in the vocational course after census week, while the remaining two had actually dropped before census week but their drops were not recorded until after census week. Thus, no errors were substantiated in the computer application of the SAM criteria.

The review of the Cerritos SAM procedure did identify one part of it that needed revision. The SAM computer program assigned majors by checking the spring coursework only. This meant that some students would have been identified as vocational on the basis of Fall, 1975 classes, but not by the spring semester classes. The procedure was revised to include both semesters and a new count of non-occupational students was generated. The non-occupational students decreased by 9.4 percent. Applying this figure to the 20 percent discrepency mentioned earlier, reduces the discrepency to near 11 percent. If we then remove the 9 students (2.4 percent) whose misclassifications were previously explained, this leaves an unexplained

discrepency of under 9 percent for classifying non-occupational students.

Objective three was to identify the reasons why the non-occupational students were attending Cerritos College. The most frequently cited reasons were transfer to a four year college (55.5 percent), personal enrichment (46.2 percent), and earning an A. A. Degree (45 percent). Not cited as major reasons were learning occupational skills (11.3 percent) and improvement of existing job skills (10 percent). In contrast, a recent survey of occupational students came up with the following reasons for attending Cerritos College: A. A. Degree (55.4 percent), personal enrichment (45 percent), learn occupational skills (29.5 percent), transfer to a four year college (29.3 percent), and improvement of job skills (27.7 percent). Non-occupational students are more interested in transferring to a four college and less interested in job skills than the occupational respondents.

The fourth objective was to determine some of the reasons why the former students did not return to Cerritos College. One of the major reasons was that 51.2 percent of them had transferred to another college. Of the 179 former students not currently enrolled in a college, 48.9 percent of them stated they were planning to return to Cerritos College, with another 21.3 percent planning to continue at another college. Only 7.3 percent reported they would not be returning to college; another 22.5 percent were not sure. Employment was also a factor in why some of the students hadn't returned to Cerritos College; 39.1 percent reported they were employed full-time.

The fifth objective was to assess the former students' opinions of the Cerritos College program in general. The students' rating of the college was: Excellent 52 percent, Average 43.1 percent, and Poor 1.3 percent. (Did not answer 3.5 percent.)

Objective six was to determine how much of the students' goals were met. The ratings were: All 50.9 percent, Part 44.5 percent, and None 3.5 percent. (Did

not answer 1.1 percent.)

Objective seven was to identify services which the former students thought needed improvement. The only college service to receive a relatively large number of negative criticisms was the program and career counseling area. It was rated Poor by 17.8 percent of the respondents. Question 12 on the survey asked for ratings of a number of college services. Referring to the Mail Survey Results section, you will notice the large number of respondents to Question 12 that indicated they didn't use the services, or they left the question blank. For example, 38.8 percent checked they didn't use the Job Placement services, with another 45.3 percent not answering the question. The areas of Tutoring Services and Financial Aids had similar ratings. This pattern of lack of use and missing answers may indicate <u>possible</u> problem areas.

Question 17 asked those attending another college to indicate any problems encountered. About 15 percent of these students indicated problems with transferring course credit and/or had some difficulties with transcripts.

Objective eight was to analyze the responses of former students that completed seven or less units. The lowest survey response rate was from this group; only 9.3 percent of the 322 Non-completors sampled returned the questionnaire. The response rate within the other classifications were the following: Graduates 32.7 percent, Certificates 40 percent, Achievers 21 percent, and Partial Completors 17.2 percent. The Non-completors rated their general opinion of the college to be: Excellent 43.4 percent, Average 43.3 percent, and Poor 6.7 percent. Their ratings are close to those for all respondents (see findings for objective five). Similarly, their intentions about returning to college were near the average for all students; 43 percent indicated they would return to Cerritos College, 17 percent at another college, and 6.6 percent not planning to continue with college (see findings for objective four). More of the Non-completors seem to be working

full-time (53.6 percent) than the average of all respondents (39.1 percent). Only 20 percent were attending college as compared to 51.2 percent for the entire return. This seems to indicate the Non-completor response rate might be increased by useing a questionnaire specialized to this group.

The ninth objective was to compare some of the findings for the non-vocational students to the vocational survey. Nearly 71 percent of the vocational students reported themselves as employed full-time, as compared to 39 percent of the non-occupational. Also, 57 percent of the non-occupational students were employed in an area not related to their Cerritos College training; only 28 percent of the vocational respondents indicated this. The average hourly wage for non-occupational respondents was $4.95, while that for the vocational students was $5.86. A higher percentage of non-occupational students (51 percent) had transferred to another college than vocational students (23 percent). However, nearly 66 percent of the former vocational students not attending college planned to return. This is very close to the 70 percent figure from former non-occupational students. The response rate to the surveys from both groups were also very near equal; 20 percent for the non-vocational and 22 percent for the vocational.

The tenth listed objective was to identify any major differences between male and female respondents. However, as noted in the Response Representativeness section, females are over-represented in the returned questionnaires. This means that some of the smaller response differences between sexes, expecially when more females than males is indicated, is a false difference. The questionnaire item that asked for rate of pay did produce a large sex difference. The average hourly wage for males was $6.23, while that for females was $3.85 A large sex difference for hourly wage was also found in the in the vocational survey; $6.78 for males versus $4.63 for females. These differences need to be interpreted with some caution because the groups may have differed in other important characteristics, such as, age, major, previous education, or occupational training which

may account for the difference in pay rate.

CONCLUSIONS AND RECOMMENDATIONS

1. The Cerritos College field test of extending the SAM procedure for identification of former non-vocational students has shown the procedures to be relatively precise. The classification of student's major as non-vocational was approximately 90 percent accurate for the survey respondents.

2. The mail survey follow-up of the former non-occupational students was about as effective as the follow-up of former vocational students. The response rates for the two surveys were 22 percent and 20 percent respectively. Since the procedures and format of their questionnaires were very similar for the two surveys, one can assume that if a college first optimizes the follow-up for vocational students most of the techniques will be directly applicable to a non-occupational follow-up.

3. The results of the field test have been circulated among only a few administrators and counselors at the present time. However, the reaction has been favorable. Of special interest, has been the comparisons between the vocational and non-occupational survey responses. Suggestions for additional data analyses are being collected. It is recommended that the follow-up of non-occupational students be continued on a yearly basis, incorporating necessary modifications to meet new objectives.

4. The response rate to the questionnaire and procedure used in this field test was low. It is recommended, therefore, that additional procedures be explored and developed to increase response rate. The more successful procedures could be incorporated into revised editions of the SAM Procedures Manual or be presented as an appendix to the manual. Where possible, alternative methods should include estimates of their cost effectiveness.

MAIL SURVEY RESULTS

Question 1

What was your primary goal in attending Cerritos College? CHECK ALL THAT APPLY

Goals	Number of Responses	Percent		
		Total[2] (N=371)	Male	Female
A.A. Degree	167	45.0%	18.9%	26.1%
Improvement of existing job skills	37	10.0%	3.0%	7.0%
Learn occupational skills	42	11.3%	4.3%	7.0%
Vocational certificate	12	3.2%	.8%	2.4%
Personal enrichment	171	46.2%	15.9%	30.3%
Transfer to 4 year college	206	55.5%	26.7%	28.8%
Other	26	7.0%	3.0%	4.0%

[1]Number of responses do not sum to 371 because multiple answers were allowed.

[2]Total percentages do not sum to 100 percent because multiple answers were allowed.

Question 2

How much of your primary goal was met?

Amount	Number of Responses	Percent		
		Total (N=371)	Male	Female
All	189	50.9%	23.5%	27.5%
Part	165	44.5%	19.7%	24.8%
None	13	3.5%	.8%	2.7%
Missing	4	1.1%	.3%	.8%
	371	100.0%		

Questions 4 - 7

Please rate the following according to your Cerritos College experience.

Question 4. Class Instruction

Rating	Number of Responses	Percent		
		Total (N=371)	Male	Female
Excellent	192	51.8%	24.3%	27.5%
Average	168	45.3%	18.9%	26.4%
Poor	6	1.6%	.5%	1.1%
Missing	5	1.3%	.5%	.8%
	371	100.0%		

Question 5. Grading & testing

Rating	Number of Responses	Percent		
		Total (N=371)	Male	Female
Excellent	119	32.1%	12.9%	19.1%
Average	232	62.5%	29.4%	33.2%
Poor	9	2.4%	.8%	1.6%
Missing	11	3.0%	1.1%	1.9%
	371	100.0%		

Question 6. Program and career counseling

Rating	Number of Responses	Percent		
		Total (N=371)	Male	Female
Excellent	92	24.8%	10.2%	14.6%
Average	152	41.0%	18.9%	22.1%
Poor	66	17.8%	8.9%	8.9%
Missing	61	16.4%	6.2%	10.2%
	371	100.0%		

Question 7. General opinion of the college

Rating	Number of Responses	Percent		
		Total (N=371)	Male	Female
Excellent	193	52.0%	24.3%	27.8%
Average	160	43.1%	18.9%	24.3%
Poor	5	1.3%	.3%	1.1%
Missing	13	3.5%	.8%	2.7%
	371	100.0%		

Question 8

What is your present employment status?

Status	Number of Responses	Percent		
		Total (N=371)	Male	Female
Working full-time (30 hours or more per week)	145	39.1%	19.9%	19.1%
Working part-time (less than 30 hours per week)	89	24.0%	10.0%	14.0%
Not working, but looking for a job	39	10.5%	4.0%	6.5%
Full-time homemaker	29	7.8%	.0%	7.8%
Military Service	6	1.6%	1.1%	.5%
Other	52	14.0%	7.5%	6.5%
Missing	11	3.0%	1.6%	1.3%
	371	100.0%		

Question 9

Are you attending college?

Response	Number of Responses	Percent Total (N=371)	Male	Female
Yes	190	51.2%	25.9%	25.3%
No	179	48.2%	18.3%	29.9%
Missing	2	.5%	.0%	.5%
	371	100.0%		

Question 10

If no to 9 above, are you planning to continue college in the future?

Response	Number of Responses	Percent Total (N=179)	Male	Female
Yes, at Cerritos College	87	48.9%	16.8%	32.1%
Yes, at another college	38	21.3%	10.7%	10.6%
No	13	7.3%	3.4%	3.9%
Not sure	40	22.5%	6.2%	16.3%
	179	100.0%		

Question 11

Do you feel your present level of training at Cerritos College would be helpful in getting a job?

Response	Number of Responses	Percent Total (N=371)	Male	Female
Yes	137	36.9%	18.1%	18.9%
No	113	30.5%	11.3%	19.1%
Not sure	99	26.7%	12.4%	14.3%
Missing	22	5.9%	2.4%	3.5%
	371	100.0%		

Question 12

Please rate only those Cerritos College services listed below that you have used.

Financial Aids

Rating	Number of Responses	Percent Total (N=371)	Male	Female
Excellent	24	6.5%	3.0%	3.5%
Average	9	2.4%	1.1%	1.3%
Poor	5	1.3%	.3%	1.1%
Did not use	159	42.9%	19.9%	22.9%
Missing	174	46.9%	19.9%	27.0%
	371	100.0%		

Question 12 (continued)

Transcript Assistance

Rating	Number of Responses	Percent		
		Total (N=371)	Male	Female
Excellent	92	24.8%	12.7%	12.1%
Average	71	19.1%	11.3%	7.8%
Poor	13	3.5%	.8%	2.7%
Did not use	79	21.3%	7.0%	14.3%
Missing	116	31.3%	12.4%	18.9%
	371	100.0%		

Question 12 (continued)

Job Placement

Rating	Number of Responses	Percent		
		Total (N=371)	Male	Female
Excellent	25	6.7%	3.2%	3.5%
Average	23	6.2%	3.2%	3.0%
Poor	11	3.0%	1.3%	1.6%
Did not use	144	38.8%	17.5%	21.3%
Missing	168	45.3%	18.9%	26.4%
	371	100.0%		

Question 12 (continued)

Tutoring Services

Rating	Number of Responses	Percent		
		Total (N=371)	Male	Female
Excellent	32	8.6%	4.0%	4.6%
Average	16	4.3%	2.7%	1.6%
Poor	5	1.3%	.5%	.8%
Did not use	154	41.5%	18.6%	22.9%
Missing	164	44.2%	18.3%	25.9%
	371	100.0%		

Question 12 (continued)

Veterens Services

Rating	Number of Responses	Percent		
		Total (N=371)	Male	Female
Excellent	39	10.5%	9.2%	1.3%
Average	13	3.5%	2.7%	.8%
Poor	1	.3%	.3%	.0%
Did not use	160	43.1%	17.5%	25.6%
Missing	158	42.6%	14.6%	28.0%
	371	100.0%		

Question 12 (continued)

Student Activities

Rating	Number of Responses	Percent		
		Total (N=371)	Male	Female
Excellent	51	13.7%	7.3%	6.5%
Average	54	14.6%	7.3%	7.3%
Poor	6	1.6%	1.1%	.5%
Did not use	115	31.0%	12.7%	18.3%
Missing	145	39.1%	15.9%	23.2%
	371	100.0%		

Question 12 (continued)

Learning Materials Center / Library

Rating	Number of Responses	Percent		
		Total (N=371)	Male	Female
Excellent	152	41.0%	18.3%	22.6%
Average	105	28.3%	13.5%	14.8%
Poor	3	.8%	.5%	.3%
Did not use	43	11.6%	4.6%	7.0%
Missing	68	18.4%	7.3%	11.1%
	371	100.0%		

PLEASE ANSWER THE FOLLOWING QUESTIONS IF YOU ARE PRESENTLY EMPLOYED:

Question 13

Which single statement best describes your present job?

Statement	Number of Responses	Percent		
		Total (N=238)	Male	Female
In the occupation for which I prepared at Cerritos College	30	12.6%	5.9%	6.7%
In an occupation related to my Cerritos College training, but not in the exact area for which I was trained	38	16.0%	5.9%	10.1%
In a field not related to my college training	136	57.1%	27.3%	29.8%
Apprenticeship program	9	3.8%	2.9%	.9%
Other	25	10.5%	3.8%	6.7%
	238	100.0%		

Question 15

What is your current rate of pay?

Respondents	Number of Responses	Average Pay Rate Dollars Per Hour
Male	104	$6.23
Female	121	$3.85
Male + Female	225	$4.95

PLEASE ANSWER THE FOLLOWING QUESTIONS IF YOU HAVE TRANSFERRED TO ANOTHER COLLEGE.

Question 16

In general, how well did Cerritos College prepare you for your continuing education?

Rating	Number of Responses	Percent		
		Total (N=198)	Male	Female
Very well	96	48.5%	28.8%	19.7%
Average	95	48.0%	24.2%	23.8%
Poor	7	3.5%	1.0%	2.5%
	198	100.0%		

Question 17

Did you encounter any problems transferring to the college you indicated in question 9? CHECK ALL THAT APPLY

Problems	Number of Responses[1]	Percent		
		Total[2] (N=198)	Male	Female
Transferring Course Credit	30	15.2%	7.6%	7.6%
Transcript Problems	30	15.2%	4.5%	10.7%
Financial Aid Problems	5	2.5%	1.0%	1.5%
Grade Point Average	3	1.5%	.5%	1.0%
Entrance Exam Scores	0	.0%	.0%	.0%
Other	13	6.6%	4.0%	2.6%

[1]Number of responses do not sum to 198 because multiple answers were allowed.

[2]Total percentages do not sum to 100 percent because multiple answers were allowed.

TELEPHONE SURVEY OF NONRESPONDENTS

Question 1

What is your present employment status?

Status	Number of Responses	Percent		
		Total (N= 47)	Male	Female
Working full-time (30 hours or more per week)	25	53.2%	29.8%	23.4%
Working part-time (less than 30 hours per week)	7	14.9%	2.1%	12.8%
Not working, but looking for a job	2	4.2%	2.1%	2.1%
Not seeking a job	12	25.6%	12.8%	12.8%
Missing	1	2.1%	2.1%	.0%
	47	100.0%		

Question 2

Which single statement best describes your present job?

Statement	Number of Responses	Percent		
		Total (N= 32)	Male	Female
In the occupation for which I prepared at Cerritos College	6	18.8%	12.5%	6.3%
In an occupation related to my Cerritos College training, but not in the exact area for which I was trained	3	9.4%	3.1%	6.3%
In a field not related to my college training	22	68.8%	31.3%	37.5%
Other	1	3.1%	3.1%	.0%
	32	100.0%		

Question 3

Are you attending college?

Response	Number of Responses	Percent		
		Total (N= 47)	Male	Female
Yes	18	38.3%	21.3%	17.0%
No	28	59.5%	25.5%	34.0%
Missing	1	2.1%	.0%	2.1%
	47	100.0%		

Question 4

If not now attending, are you planning to return to college?

Response	Number of Responses	Percent		
		Total (N= 27)	Male	Female
Yes, at Cerritos College	9	33.3%	11.1%	22.2%
Yes, at another college	7	25.9%	11.1%	14.8%
No	11	40.7%	22.2%	18.5%
	27	100.0%		

Question 5

In general, how well did your Cerritos College prepare you for your continuing education?

Rating	Number of Responses	Percent		
		Total (N= 18)	Male	Female
Very well	9	50.0%	22.2%	27.8%
Average	7	38.9%	22.2%	16.7%
Poor	0	.0%	.0%	.0%
Missing	2	11.1%	5.5%	5.6%
	18	100.0%		

APPENDIX A

MAIL SURVEY QUESTIONNAIRE

Norwalk, California 90650

PLEASE ANSWER ALL OF THE FOLLOWING QUESTIONS:

1. What was your primary goal in attending Cerritos College? **CHECK ALL THAT APPLY**
   - ☐ A.A. Degree
   - ☐ Improvement of existing job skills
   - ☐ Learn occupational skills
   - ☐ Vocational certificate
   - ☐ Personal enrichment
   - ☐ Transfer to 4 year college
   - ☐ Other (describe) _____

2. How much of your primary goal above was met?
   All ☐ Part ☐ None ☐

3. What was your major or in which subject did you complete most classes?
   My major or subject area was _____
   Units completed in major area _____ units

Please rate the following according to your Cerritos College experience.

		Excellent	Average	Poor
4.	Class instruction	☐	☐	☐
5.	Grading & testing	☐	☐	☐
6.	Program and career counseling	☐	☐	☐
7.	General opinion of the college	☐	☐	☐

8. What is your present employment status?
   - ☐ Working full-time (30 hours per week or more)
   - ☐ Working part-time (less than 30 hours per week)
   - ☐ Not working, but looking for a job
   - ☐ Full-time homemaker
   - ☐ Military service
   - ☐ Other (describe) _____

9. Are you attending college?
   Yes ☐ No ☐
   College _____
   Major _____
   Units carried _____

10. If no to 9 above, are you planning to continue college in the future?
    - ☐ Yes, at Cerritos College
    - ☐ Yes, at another college
    - ☐ No
    - ☐ Not sure

11. Do you feel your present level of training at Cerritos College would be helpful in getting a job?
    Yes ☐ No ☐ Not sure ☐

12. Please rate only those Cerritos College services listed below that you have used.

	Excellent	Average	Poor	Did not use
Financial Aids	☐	☐	☐	☐
Transcript Assistance	☐	☐	☐	☐
Job Placement	☐	☐	☐	☐
Tutoring Services	☐	☐	☐	☐
Veterans Services	☐	☐	☐	☐
Student Activities	☐	☐	☐	☐
Learning Materials Center/Library	☐	☐	☐	☐

PLEASE ANSWER THE FOLLOWING QUESTIONS IF YOU ARE PRESENTLY EMPLOYED:

13. Which single statement best describes your present job?
    - ☐ In the occupation for which I prepared at Cerritos College
    - ☐ In an occupation related to my Cerritos College training, but not in the exact area for which I was trained
    - ☐ In a field not related to my college training
    - ☐ Apprenticeship program (specify) _____
    - ☐ Other (describe) _____

14. What is your job title or type of work? _____
    _____ _____

15. What is your current rate of pay?
    $_____ per hour or $ _____ per month

PLEASE ANSWER THE FOLLOWING QUESTIONS IF YOU HAVE TRANSFERRED TO ANOTHER COLLEGE.

16. In general, how well did Cerritos College prepare you for your continuing education?
    Very well ☐ Average ☐ Poor ☐
    Suggestions? _____
    _____

17. Did you encounter any problems transferring to the college you indicated in question 9? **CHECK ALL THAT APPLY**
    - ☐ Transferring Course Credit
    - ☐ Transcript Problems
    - ☐ Financial Aid Problems
    - ☐ Grade Point Average
    - ☐ Entrance Exam Scores
    - ☐ Other (describe) _____

THANKS FOR YOUR HELP!

ANY COMMENTS? _____
_____

CERRITOS COLLEGE
Office of the President
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Norwalk, CA 90650

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CERRITOS COLLEGE

Office of the President

TO: Former and Continuing Students of Cerritos College

I am most interested to know how well we at the college have been meeting your needs and how we can improve our efforts to serve you better.

I would appreciate your taking a few minutes to answer this form and to return it to me as soon as possible. Your answers are extremely important to us because you were selected by a scientific random sample of our student name list. We can get a clear picture of how to improve our programs only if you and the other students who receive this survey help us.

After completing this form, simply fold it so that the Cerritos College address is showing, wet the glue strip, and then seal the form. No postage stamp is required.

Of course, we will hold your responses in confidence and use them only in combination with those of other students for statistical analysis.

Thank you and please feel free to call us, if we may be of assistance.

Sincerely,

Wilford Michael

Dr. Wilford Michael
President

APPENDIX E-3

FINAL REPORT

STUDENT ACCOUNTABILITY MODEL (SAM)

EXTENSION PROJECT

Moorpark College

March 31, 1977

FIELD TEST COORDINATORS:

Lawrence G. Lloyd
Associate Dean of Instruction

Dr. Donald B. Medley
Data Processing Instructor

I - PURPOSE OF THE PROJECT

This Extension Project was one of six assigned in November 1976, all of which having as general goals the further improvement of student follow-up techniques in occupational education and the possible inclusion of non-occupational students in the SAM process.

The Moorpark College research model sought to treat both of these goals but with an emphasis on identification and further definition of the non-occupational student. Follow-up techniques were not explored per se; however, the outcomes of the project do suggest new needs and approaches in follow-up as a result of information gathered. This will be treated later under "Recommendations."

The focus of Moorpark College's plan was primarily "Essential Guidelines" (5) and (8) (February 1977):

(5) System must be ongoing, not "one-shot."

(8) System must provide pertinent evaluation and planning information to occupational administrators and faculty.

To attack these guidelines, five objectives were set:

(1) to create an historical file that will relate semester by semester information regarding all students in a given community college to their continuing program efforts from initial enrollment through departure from school;

(2) to develop a program analysis system which will describe on a class by class basis student work;

(3) to extend the utilization of the U. S. Office of Education Code (USOE) to all classes of the college, occupational and non-occupational;

(4) to collect information on each student, semester by semester, on his intended objectives in following a course of study;

(5) to apply formally to the information gathered on pattern of courses, declared objectives and relation of classes to curriculum patterns a curriculum analysis measurement system.

II - METHODOLOGY

The Ventura County Community College District, a three-college district including Moorpark, Oxnard and Ventura, began use of the SAM system in the Fall of 1974. Because of this three-year history of data records, it was arbitrarily decided to use all information available to create a six-semester SAM history file in order to longitudinally view all students during that time, both occupational and non-occupational.

A Data Processing program was written to link the six semesters, to combine these records on a single file and to then produce a useable report format (see flowchart - Attachment "A").

In order to group courses in the final report by semester, it was decided that the USOE codes would be applied as course codes. Realizing that USOE is technically a program code, this action was taken because it was felt that it was, nevertheless, a superior taxonomy to HEGIS or CID in definition of subjects/disciplines. Because of incomplete USOE coding at Oxnard and Ventura Colleges, the original intent of surveying student records at all three colleges was abandoned and only Moorpark records were used. A further difficulty was encountered with the records for Fall 1974 and Spring 1975. These records only partially used USOE, thus making a single run for six semesters impossible. Findings of the project thus required analysis and matchup of these two separate printouts. However, future record additions will not have this problem.

Added to the SAM and USOE information for the last two semesters was a student declaration code of educational intent, updated semesterly. Five intent choices were possible: transfer, occupational training, in-service training, basic learning skills and general education.

A further plan to develop a Data Processing program to random sample students on the basis of USOE patterns over a period of one to six semesters, linked with SAM declarations and student objectives declarations, was not produced. There was insufficient time in the grant plan to meet such a complex objective. However, a manual survey of the record produced was made leading to several findings, conclusions and recommendations.

III - SUMMARY OF FINDINGS

The Moorpark SAM Extension Project produced several significant findings:

A - It is possible to link student records from semester to semester for a longitudinal view of student patterns of course activity, both occupational and non-occupational.

B - Though lacking a totally definitive taxonomy, USOE proved useable as a course code for identifying subject areas of emphasis.

C - The use of semesterly declarations of educational intent can be extremely valuable when juxtaposed against a complete profile of student course activity. At this point, it is not possible to declare a "Major" in the formal sense of that term; however, an educational discipline can be discerned and matched to the statement of curricular intent in a number of instances.

D - The SAM coding structure of A through E is extremely effective as a base for identifying the occupational student, but only when used in an historical context.

E - Use of a follow-up system linked to historical information will lead to better questioning techniques because more information on the student will be available.

F - The term "non-continuing" will be better understood when viewed over a three or even four year study of student records.

G - An historical record will result in better understanding of students who follow dual tracks, who change subject areas of emphasis, who "educationally shop around", who can easily be identified as to educational major, and who just can't be categorized because of insufficient information.

H - When this record is linked to a course/program record, there could occur a reevaluation of the curriculum based on student course use habits.

IV - CONCLUSIONS AND RECOMMENDATIONS

The SAM program has been a catalyst for seeking better ways of understanding the community college student and his/her educational intentions. As such, it is a significant link in a chain leading to truly effective planning tools for community college educators.

The findings of this study have made it clear to this researcher that without SAM there would not have been a basis for what this historical approach has revealed.

However, it is important now that the next steps are taken to make SAM fully valid. It cannot remain as a program selecting students on a "freeze-frame" basis from year to year with no linkage between years. To continue to do this would be the same as accepting a declaration of "Major" upon entrance to the college and never asking again thereafter. SAM must become a cumulative system, using a method of random selection for follow-up at any time there appears need to affirm a trend or inspect a contradiction in course patterning.

In Attachment "B" samples of the program produced are shown along with a preliminary approach to analysis that could form the basis for a new Data Processing program. The three pages selected are samples only and merely illustrate possibilities. The full report, some 1461 pages in length, demands an automated approach for genuinely accurate statistical reporting.

Attachment "C" is a further attempt to select student records from three advanced classes, or "A" level, and validate whether or not the students, declared by SAM to be Majors, actually are Majors.

Both of these examples point up the tremendous potential of this type of data bank. This potential will continue to be explored in the Ventura County Community College District in order that this preliminary work not be wasted.

The following analysis of three sample pages is a manual study attempting to make some assumptions about the historical view of student records:

Column I - Records identified by numeric; actual record uses Social Security numbers.

Column II - Denotes number of semesters (of six) student attended.

Column III - Indicates number, if any, of educational goal declarations made (1976-77 only).

Column IV - Goal or goals declared are noted.

Column V - SAM Analysis uses the following considerations:

SAM Persister = consistently fits SAM guidelines

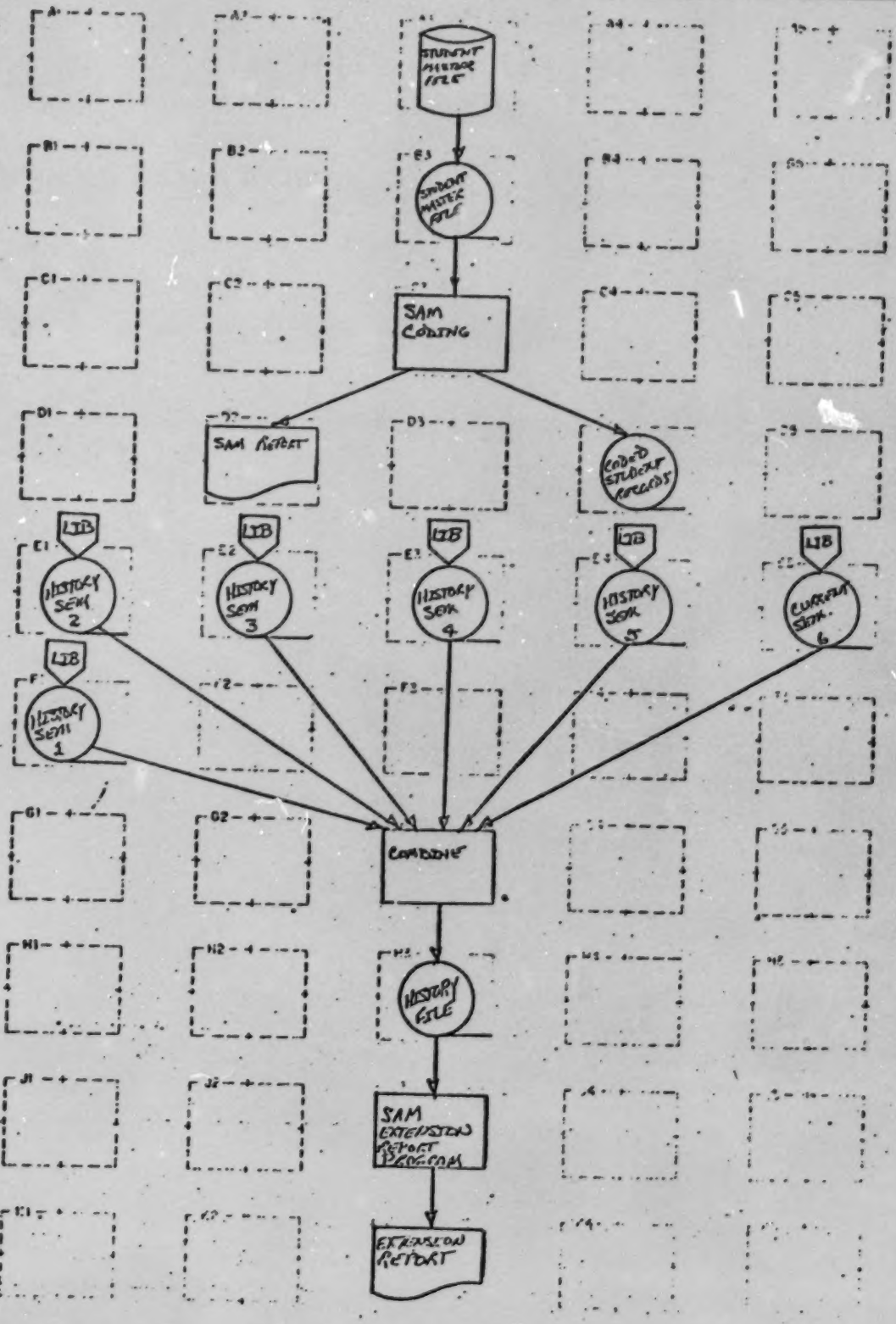
SAM Possible = declared as SAM at some point but Major selection not clear

E = clearly non-occupational

Column VI - Denotes assumption of discipline(s) or area(s) of study useful in follow-up approach.

Programmer: _____ Program No.: _____ Date: _____ Page: _____

Chart ID: _____ Chart Name: _____ Program Name: _____



SAMPLE ANALYSIS

OF

STUDENT COURSE PATTERNS

Record Number	SEX	DEC MAJ	FIRST SEM OBJ CODE USOE	SECOND SEM OBJ CODE USOE	THIRD SEM OBJ CODE USOE	FOURTH SEM OBJ CODE USOE	FIFTH SEM OBJ CODE USOE	SIXTH SEM OBJ CODE USOE
1	1	795	B 17.2802(2)	B 17.2802(2)	C 16.0605(1) B 16.0605(3) B 17.2802(2)			
1	1	401		D 17.1500(1) E 9.0104(1)	C 17.1502(1)			
3	1	500		E 05.0400(1) E 12.0400(1) E 05.0500(1)	C 14.0101(1)	D 14.0800(1) B 14.0101(1) E 15.0805(1) E 15.0607(1) F 5.0504(1) E 15.1305(1)	A D 14.0200(1) E 15.0805(1) E 15.1004(1) E 15.1101(1)	
	1				D 16.0605(1) E 5.0504(1)	E 8.0101(1) E 5.0504(1) F 11.0305(1) E 8.0306(1) C 16.0605(1)	E D 17.0302(1) D 17.1400(1) D 17.1300(1) E 12.0100(1)	E B 17.0302(1) B 17.1300(1) E 15.0305(1) E 15.1204(1)
	2					E 5.0400(1) F 5.0339(1) E 15.1204(1)		
	1	2000				E 5.0400(1) E 12.0100(1) E 13.0200(1)	E E 5.0402(2) E 12.0100(1) E 15.1304(1) E 5.0600(1)	E E 12.0504(1) E 15.1003(1) E 15.1101(1) E 15.1305(1) E 5.0400(1)
	2					E 2.0201(1) E 2.0206(1) E 2.0101(1)		
	2				D 14.0900(1)	E 13.0200(1) F 9.0107(2) E 8.0306(2) E 5.0400(1)		
	1					E 6.0209(1)		
	2				E 9.0107(1) F 9.0103(1)			
	2				E 14.0102(1)			

PRELIMINARY ANALYSIS OF 6-SEMESTER

SAM EXTENSION DATA BANK

PAGE "X" SUMMARY

I Record Number	II Semester	III Goal Declaration	IV Goal(s)	V SAM Analysis	VI Follow-up Consideration
1	3	None	None	SAM Persister	Law Enforcement
2	2	None	None	SAM Possible	Unknown
3	4	1	Transfer	SAM Possible	Social Science Emphasis
4	4	2	General Education	SAM Possible	Several
5	1	None	None	E	Unknown
6	3	2	General Education	E	Music Emphasis
7	1	None	None	E	Art
8	2	None	None	E	Unknown
9	1	None	None	E	Unknown
10	1	None	None	E	Home Economics
11	1	None	None	SAM Possible	Insufficient Information

SUMMARY

Total Records	=	11
SAM Declared	=	5
SAM Persisters	=	1
E Declared	=	6
Instructional Goal Apparent	=	6

Record Number	DEC SEX MAJ	FIRST SEM OBJ CODE USDE	SECOND SEM OBJ CODE USDE	THIRD SEM OBJ CODE USDE	FOURTH SEM OBJ CODE USDE	FIFTH SEM OBJ CODE USDE	SIXTH SEM OBJ CODE USDE
1	2 401	E 08.0300(1) E 15.0700(1)			E 8.0306(1)		
	1				D 16.0601(1)		
3	1 823		E 08.0300 C 17.2801(1) B 16.0602(1) E 9.0104(2)		E 15.0700(1) E 6.0219(1) E 15.0900(1)		
4	1 401		C 17.2802(1) D 17.2802(1) D 1.0699(1) E 15.1100(1)	D 14.0800(1) D 17.2800(1) D 17.2899(2)	E 5.0400(2) E 15.1003(1) E 15.1004(1) E 5.0101(2) E 15.1201(1)		
	1 500					B	D 4.0000(1) C 14.0800(1) D 14.0800(1) C 4.1200(1)
5	2				E 15.1203(1) E 15.1101(1)	E E 15.0802(1) E	E 8.0306(1) E 15.0703(1)
	2					E	D 16.0601(1)
	1				E C 14.0800(1)		
	1				B C 14.0101(1) E 3.1200(1)	B	B 14.0101(1)
	1 1700				E 6.0209(1) C 17.1700(1) D 4.1700(1)	E F 6.0209(1) E	E 11.0305(1) D 14.0200(1) B 14.0200(1)
	2				C 14.0102(1)		
	2 500				E 13.0201(1) E 15.1003(1) E 11.0601(1) E 8.0303(1)	A E 13.0201(1) A B 14.0200(1) E 8.0106(1) E 11.0800(1) E 8.0307(1)	E 2.0204(1) E 15.0201(1) E 11.0601(1) E 8.0307(1)
	2					B	B 14.0399(1)
14	1 401		C 4.1700(2) B 4.1700(1)	D 14.0800(1) C 4.1700(2)	C 14.0101(1) C 4.1200(1) D 14.9900(1) C 4.1700(2)	C E 15.0703(1) A E 8.0306(1) E 15.1203(1) E 5.0501(1)	E 8.0306(1) E 5.0501(1) E 15.0703(1)

PAGE "Y" SUMMARY

I Record	II Semester	III Goal Declarations	IV Goal(s)	V SAM Analysis	VI Follow-up Consideration
1	2	None	None	E	Insufficient Information
2	1	None	None	E	Insufficient Information
3	2	None	None	Sam Possible	Unknown
4	3	None	None	SAM Possible	Public Services
5	1	1	Occupational Educa. Training	SAM Possible	Supervision/ Marketing
6	3	2	General Education	E	Social Science
7	1	1	General Education	E	Insufficient Information
8	1	1	General Education	E	Insufficient Information
9	2	2	Occupational Educa. Training	SAM Persister	Accounting
10	3	2	General Education	SAM Possible	Unknown
11	1	None	None	SAM Possible	Insufficient Information
12	3	2	Transfer	SAM Possible	Lower Division
13	1	1	Occupational Educa. Training	SAM Persister	Library Technology
14	5	2	In-Service Tr. Transfer	SAM Possible	Real Estate/Lower Division Requirements and/or AS Degree

SUMMARY

Total Records	=	14
SAM Declared	=	9
SAM Persisters	=	2
E Declared	=	5
Instructional Goal Apparent	=	7

Record Number	DFC SEX	MAJ	FIRST SEM OBJ CODE USDE	SECOND SEM OBJ CODE USDE	THIRD SEM OBJ CODE USDE	FOURTH SEM OBJ CODE USDE	FIFTH SEM OBJ CODE USDE	SIXTH SEM OBJ CODE USDE
								E D 17.1502(1)
2	1	803	E 05.0400(1) E 13.0403(1) E 15.0800(1) D 14.0100(1)	C 4.1200(2) D 14.0800(1) D 4.0100(1)	E 3.1200(1) D 14.0800(1) E 9.0104(1) D 14.0200(1)	D 14.9900(1) C 4.1200(1) D 17.1700(1) E 5.0400(1)		
	1	1000					C E 12.0200(1) E 12.0401(2) E 12.0504(1) E 15.1200(1) E 5.0503(1)	C E 9.0107(1) E 8.0106(1) E 12.0401(1) E 12.0200(1) E 15.1200(1)
4	1	401	E 15.1100(1) E 15.0000(1)	D 17.0900(1) C 14.0201(1)	B 14.9901(1) D 14.0800(1)	F 5.0400(1) E 12.0100(1)	A E 15.0703(1) E 8.0307(1)	A E 13.0200(1) E 8.0106(1)
	2							C C 14.0800(1)
6	2	401	E 02.0200(1) D 17.0700(1)	E 02.0200(1) D 17.0700(1)	C 17.1905(1)	E 2.0208(2) E 5.0402(1) E 2.0100(1)	E E 5.0504(1) E 5.0402(1) D 17.0900(1)	E E 5.0504(1) E 5.0402(2) C 17.0900(2) E 5.0501(1) D 14.0900(1)
7	2	401	C 14.0700(1)				E E 15.1304(1)	
	2					E 5.0402(1)	E F 5.0402(2)	E C 1.0101(1) E 6.0213(1)
9	1	401	E 11.1100 E 11.1100 E 13.0302	E 11.1100(1) E 08.0300(1) D 17.0900(1) D 14.0203(1)		E 11.0700(1) E 15.1101(1) E 8.0106(1) E 9.0104(1)		A E 13.0300(1)
	2							E E 6.0209(1)
	1							E D 14.0800(1) E 8.0306(1)
	2					E 6.0219(1)	C E 8.0219(1)	
13	2	401	B 4.1700(1)	B 4.1700(1)				E C 4.1700(2)
14	1	500	E 05.0400 E 11.1100 E 15.0800	C 17.1700(2) E 08.0100		E 5.0501(1)	C E 15.0799(1)	
	2		E 15.1300					E E 6.0213(1)
	1							E E 6.0209(1)

PAGE "Z" SUMMARY

I Record Number	II Semester	III Goal Declaration	IV Goal(s)	V SAM Analysis	VI Follow-up Consideration
1	1	1	General Education	SAM Possible	Insufficient Information
2	4	None	None	SAM Possible	General Business/ AS Degree
3	2	2	In-Service Training	E	Music Emphasis
4	6	2	Transfer	SAM Possible	Lower Division
5	1	1	In-Service Training	SAM Persister	Supervision
6	6	2	General Education	SAM Possible	Art General
7	2	1	General Education	SAM Possible	Insufficient Information
8	3	2	General Education	SAM Possible	Insufficient Information
9	4	1	Transfer	E	Lower Division Requirements
10	1	1	General Education	E	Insufficient Information
11	1	1	General Education	E	Insufficient Information
12	2	1	General Education	E	Foreign Language
13	3	1	General Education	SAM Persister	Real Estate
14	4	1	General Education	SAM Possible	Supervision/AS Degree
15	1	1	General Education	E	Insufficient Information
16	1	1	General Education	E	Insufficient Information

SUMMARY

Total Records	=	16
SAM Declared	=	9
SAM Persister	=	3
E Declared	=	7
Instructional Goal Apparent	=	9

ANALYSIS OF "A" LEVEL

SAM CLASSES

The following pages represent a study of all enrollments in three selected SAM "A" level classes. The classes were advanced classes in Secretarial Science, Electronics and Administration of Justice.

The classes are currently running during the Spring of 1977 at Moorpark College. The enrollment list was a fourth-week census roster.

BUSINESS 20B - INTERMEDIATE SHORTHAND

Spring 1977

I Record Number	II Semester	III Goal Declaration	IV Goal(s)	V SAM Analyst	VI Follow-up Consideration
1	1	1	Occupational Education Training	SAM Persister	Secretarial
2	2	2	Transfer (2)	SAM Persister	Secretarial
3	1	2	Transfer (2)	SAM Possible	Shift from Animal Training to Gen. Education/Transfer with Secretarial classes
4	2	2	Transfer (2)	SAM Possible	Secretarial and DP with AA General Education
5	2	2	Occupational Education Training (2)	SAM Persister	Secretarial
6	2	2	Occupational Education Training (2)	SAM Persister	Secretarial
7	4	2	Occupational Education Training / In-Service Training	SAM Persister	Secretarial
8	2	2	Transfer	SAM Possible	Insuff. Informati
9	1	1	Occupational Education Training	SAM Persister	Secretarial
10	2	2	Occupational Education Training	SAM Persister	Secretarial (coul have been claimed also as Rec.Tech)
11	2	2	Occupational Education Training	SAM Persister	Secretarial

SUMMARY

Total Records	=	11
SAM Declared	=	11
SAM Persisters	=	8 (73%)
Occupational/In-Service Goal Declarations	=	7
Transfer Goal Declarations	=	4

ADMINISTRATION OF JUSTICE 5 -

PRINCIPLES AND PROCEDURES OF THE JUSTICE SYSTEM

Spring 1977

I Record Number	II Semester	III Goal Declaration	IV Goal(s)	V SAM Analyst	VI Follow-up Consideration
1	4	2	In-Service Training	SAM Persister	Admin. of Justice
2	5	2	Transfer	SAM Persister	Admin. of Justice (General Educatio only one semeste
3	2	2	General Education	SAM Persister	Admin. of Justice
4	2	2	Occupational Education Training	SAM Possible	Split of classes between Automotiv and Admin. of Jus
5	5	2	Transfer	SAM Persister	Admin. of Justice (General Educatio only one semeste
6	1	1	In-Service Training	SAM Persister	Admin. of Justice
7	2	2	Transfer	SAM Persister	Admin. of Justice
8	2	2	In-Service Training	SAM Persister	Admin. of Justice
9	3	1	In-Service	SAM Persister	Admin. of Justice
10	2	1	Transfer	SAM Possible	Admin. of Justice (probably; but claimed as Photo one semester)
11	4	2	Transfer	SAM Persister	Admin. of Justice
12	4	2	Transfer	SAM Possible	Admin. of Justice (probably; AA Degree/General Education Trans-fer Requisites-- two semesters "E
13	5	2	General Education	SAM Persister	Admin. of Justice (Electronics one Semester)

ADMINISTRATION OF JUSTICE 5--
(cont'd)

I Record Number	II Semester	III Goal Declaration	IV Goal(s)	V SAM Analyst	VI Follow-up Consideration
14	2	2	General Education	SAM Persister	Admin. of Justice
15	5	1	Transfer	SAM Possible	Admin. of Justice (Probably; Genera Education Mainly
16	2	2	Occupational Education Training	SAM Persister	Admin. of Justice
17	3	2	Transfer	SAM Persister	Admin. of Justice
18	3	2	Transfer	SAM Persister	Admin. of Justice
19	4	2	General Education	SAM Persister	Admin. of Justice
20	3	1	Transfer	SAM Persister	Admin. of Justice
21	3	1	Transfer	SAM Persister	Admin. of Justice two semesters of General Education
22	5	2	Transfer	SAM Persister	Admin. of Justice
23	4	2	Transfer	SAM Persister	Admin. of Justice
24	3	1	Transfer	SAM Possible	Insufficient Information
25	3	2	Transfer	SAM Persister	Admin. of Justice
26	5	2	Transfer	SAM Possible	Shift from Ag.-- General Education Emphasis
27	1	1	Transfer	SAM Possible	Admin. of Justice (probably)

SUMMARY

-- Total Records	=	27
-- SAM Declared	=	27
-- SAM Persisters	=	20 (74%)
-- Occupational/In Service Goal Declarations	=	6
-- Transfer Goal Declarations	=	17

ELECTRONICS 20B - BASIC ELECTRONICS: AC

I Record Numbers	II Semester	III Goal Declaration	IV Goal(s)	V SAM Analyst	VI Follow-up Consideration
1	6	2	In-Service Training	SAM Persister	Electronics (call Admin. of Justice one semester)
2	2	2	General Education	SAM Persister	Electronics
3	4	2	In-Service Training	SAM Possible	Four training Possibilities
4	6	2	In-Service Training	SAM Persister	Electronics
5	1	1	In-Service Training	SAM Persister	Electronics
6	2	2	In-Service Training	SAM Persister	Electronics
7	3	2	In-Service Training	SAM Persister	Electronics
8	2	1	General Education	SAM Possible	Insufficient Information
9	3	2	Occupational Education Training	SAM Persister	Electronics
10	2	2	In-Service Training	SAM Persister	Electronics
11	2	2	In-Service Training	SAM Persister	Electronics
12	5	2	Transfer	SAM Possible	AA Liberal Arts
13	1	1	Transfer	SAM Possible	Insufficient Information
14	2	2	Occupational Education Training	SAM Persister	Electronics
15	1	1	In-Service Training	SAM Persister	Electronics

ELECTRONICS 20B
(cont'd)

I Record Number	II Semester	III Goal Declaration	IV Goal(s)	V SAM Analyst	VI Follow-up Consideration
16	2	2	In-Service Training	SAM Persister	Electronics
17	3	1	Occupational Education Training	SAM Possible	Agriculture, Music, Electronics
18	3	1	Occupational Education Training	SAM Possible	Electronics probably
19	1	1	In-Service Training	SAM Persister	Electronics
20	2	2	General Education/ In-Service Training	SAM Persister	Electronics
21	2	2	In-Service Training	SAM Persister	Electronics
22	5	2	Occupational Education Training	SAM Possible	AA Liberal Arts
23	3	2	In-Service Training	SAM Persister	Electronics
24	3	2	Occupational Education Training	SAM Persister	Electronics
25	2	1	In-Service Training	SAM Persister	Electronics

SUMMARY

Total Records	=	25
SAM Declared	=	25
SAM Persisters	=	18 (72%)
Occupational/ In-Service Goal Declaration	=	21
Transfer Goal Declaration	=	2

FINAL REPORT

TELEPHONE INTERVIEW VS. MASS MAILING

FOR STUDENT FOLLOW-UP

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Los Angeles Pierce College

1977

FINAL REPORT

TELEPHONE INTERVIEW VS. MASS MAILING

FOR STUDENT FOLLOW-UP

Purpose

It was the purpose of this research project to determine the relative effectiveness of two methods for doing student follow-up studies for vocational education in community colleges. The methods tested were:

1. Small sample telephone interviewing.
2. Large sample mailing with:
   a. postcard reminder
   b. telephone reminder

In order to adequately educate students for the working world, most vocational programs should be modified so that those enrolled develop current skills. One of the best sources of data to guide modification comes from former students: those who have gone through the programs and have left college with salable skills.

Previous to the Student Accountability Model (SAM) both the identification of the students and the determination of the completeness of preparation was, at best, difficult. The SAM program makes this identification and classification relatively easy.

Traditionally, the validity of student follow-up studies has been hampered by two deterrents. First, they were normally conducted by mailing questionnaires to large samples from the population of students who had been in programs and left. Though there were no hard and fast

expectations, about 10 percent of these questionnaires would normally be returned if no other reminders were issued. Second, in most large colleges it was difficult to know what a student's major was and how complete his or her college work had been. For these reasons the decisions based on follow-up questionnaire returns were difficult to defend.

Many procedures have evolved to increase the proportion of returned questionnaires. Colleges have sent reminder postcards, prepared students for follow-up questionnaires before they left the college, and have included letters from department heads and faculty members with whom the students would be familiar. All of these procedures have been reported as valuable, but seldom do they increase the number of the returns to as much as 25 percent.

Though telephone follow-up studies have been carried out sporadically, few have been reported. It has been assumed that the cost of phoning a large sample of former students would be prohibitive as compared to postal charges. However it may be the case that, with appropriate sampling, more generalizable information could be collected for less money by phoning a small, representative sample of students than by sending out hundreds of questionnaires. The present research was conducted to determine whether or not the small-sample telephone interviewing follow-up procedure, would yield more useful results at reasonable costs than mass mailing.

Procedures

Sampling

There were two sampling procedures required for this study. First, it was necessary to select programs to act as a test-bed for the

follow-up studies. Second, a representative sample of students from each program had to be identified.

Selection of Programs. Most large, comprehensive community colleges offer dozens or scores of different programs in occupational education. At Pierce there are 53. The selection was made on two criteria:

1. An adequate number of former students reported by SAM.
2. The importance to the college of gaining information to modify the programs.

The programs chosen were:

1. Natural Resources Management
2. Horticulture
3. Secretarial Science
4. Computer Science

Horticulture and Natural Resources Management were selected because they met the criteria and are conducted by our agricultural department, the largest of any community college in California.

Selection of Former Students. The populations of former students were defined by the SAM listings. These computer reports list all of the students who had enrolled in at least one occupational course during summer '75, fall '75, or spring '76 and were not enrolled at the college in fall '76.

(This was the first operational run of a SAM program made for the Los Angeles Community College District. As a consequence, there were a few minor flaws that are in the process of being eliminated. One was that the inclusion of a summer session tends to spuriously increase the number of students lost. A second was that a few of the occupational courses were overclassified leading to the report of more Achiever, Class 1

students than are warranted. A third was that the District does not record the granting of a degree or certificate for the computer records. The result is that Graduates 1, 2, and 3; Certificates 1, 2, and 3; and Achiever 1 are all grouped into a single category reported as Achiever, Class 1. The user of the printout must make the assumption that everyone reported in this category has left the college with salable skills.)

From the SAM printouts the following samples were made:

1. Horticulture--The SAM printout indicates that 74 students in Floraculture and 158 in Ornamental Horticulture fell into the Achiever 1 category. Of these, a random 82 were selected for telephone follow-up. This represented approximately a one-third sample. The remaining 150 were used as subjects for a mail questionnaire.

2. Natural Resources Management--There were 80 Achiever 1's in the Natural Resources Management Report. Because of the small number, some Non-Achiever, Class 1's were included. A total of 66 were selected for telephone interviewing and the remainder were sent mail questionnaires.

3. Secretarial Sciences--There were a total of 168 Achiever 1's in Secretarial Science and 214 Achiever 2's. There were 79 selected randomly for inclusion in the telephone survey and the remainder were used for mail questionnaires.

4. Computer Sciences--There were 131 Achiever 1's and 80 Achiever 2's in Computer Sciences. Of these, 53 were selected for telephone interviewing. The remainder were used for mail questionnaires.

Selection and Training of Interviewers

Most colleges that carry out telephone interviewing use classified or regular clerical employees as interviewers. Since cost was used as

a criterion for judging follow-up procedures, lower-paid student workers were used as interviewers for this study. The present author received the names of competent students from his colleagues in the Sociology and Psychology Departments. All of the candidates had already passed basic courses in social sciences. A group interview was held with the students, and five who found the project of interest were selected. Each was assigned responsibility for one of the programs. They were given thorough training in conducting telephone interviews. They also had a minor input into the development of the structure of the interview that they were to use. Each was given a copy of "Instructions to Interviewers." (A copy appears in Appendix 1).

An additional step was taken to prepare the student interviewers. The names and telephone numbers of five students from each program were given to each interviewer; and when these interviews were completed, a final meeting was held. This pilot study was also used to test the interview schedule and be sure it was easily usable. (These pilot students were contaminated and removed from the populations to be sampled.)

The Interview Schedule and Questionnaire

An interview schedule was developed to elicit information from each sample of former students. The questions requested data in four areas:

1. Employment
2. Pierce College experience
3. Transfer to another college
4. Department unique questions

The questions for the first three parts were relatively standard. They were taken from other questionnaires and modified only to the

extent that they would be easy to ask in a telephone interview.

The questions in part four were different for each program. Each program director or department head was asked to have the teaching faculty compose questions, the answers to which he or she might find useful in evaluating and modifying course content, or sequence of the program. These chairpersons polled their faculty and each came up with a credible list. In each case the questions were modified by the present author so that the interviewers could use a multiple-choice format.

When the interview schedule was determined to be adequate by the pilot study, questionnaires were composed that would elicit the same information with a mail survey. (A copy of each of the four program-unique questions appears in Appendix 2.)

Both the interview schedules and questionnaires were printed using color coding to distinguish the programs.

Data Collection

Mailing labels with telephone numbers were attached to the interview schedules and these were given to the student workers so that they could do their interviews at home. Almost all of the telephoning was done during the evening hours and weekends. Each number was called three different times before giving up and classifying that student as a non-repondent. This was an arbitrary decision.

The mail questionnaire was printed on legal size, heavy stock paper. It was folded in thirds so that a mailing label could be attached to one surface, and reverse folding exposed the return address. Rather than printing first or third class postal permits, a first class stamp was attached to both the mailing label and return-address surfaces. It as assumed that this procedure might slightly increase the probability of it being returned.

Three weeks after the questionnaires were mailed, all students who had not responded and whose questionnaires had not been returned as nondeliverable, were given a reminder. One part of this group was sent a printed postcard (reproduced in Appendix 3), and a second part was phoned and encouraged to return the questionnaire or, if lost, sent a duplicate.

Three weeks after the reminder, card or call, it was assumed that all returns that would come in had been received.

Results and Recommendations

There are two kinds of results to report for this study. The first deals with the proportion of returns, and hence the validity of conclusions to be drawn. The second deals with cost.

Proportion of Returns

Table 1 lists the number and proportion of returns for the mass mailing for each program. Eliminating the nondeliverables, about 18 percent of the total mail sample returned questionnaires spontaneously (with no reminder). The postcard reminder added less than 2 percent, while the telephone reminder gave an additional 1 percent. If one adds the spontaneous proportion to the telephone reminder, about a 20 to 23 percent return for mail questionnaires was achieved.

(It should be kept in mind that these samples were selected primarily from an achiever population. For a separate study a similar, but much shorter, questionnaire was sent to about 4,000 nonachievers. Slightly less than 10 percent responded.)

Table 2 indicates, of the sample selected for telephone interviews, 50 percent responded, 25 percent had disconnected telephones, had moved, or were unavailable for the interview. This part of the sample is

comparable to the "nondeliverable" category for the mailed questionnaire. If one eliminates these nonrespondents, the proportion of returns of telephone interviewing reaches 72 percent.

In summary, if the nondeliverables are eliminated, 20 percent of the mailed questionnaires were returned and 72 percent of those interviewed by telephone provided some useful information.

Validity of Follow-up Studies

The proportion of returns given above for mail questionnaires appears to be not significantly different from that reported in scores of previous studies. One can elicit returns from between 10 and 20 percent of the former students simply by mailing questionnaires and one round of reminders. However, it is evident that a researcher receiving a 10 to 20 percent volunteer return will have great difficulty justifying any conclusions or generalizations based on data from such a sample. Certainly one could postulate a number of potential systematic differences between those who chose to return their questions and those who did not.

However, conclusions drawn from a 50 percent return, 72 percent if nondeliverables are eliminated, though not immutable verities, are much more defensible. It is difficult to postulate gross systematic differences between those who could be contacted and those who were not at home on three separate occasions.

The first question that this study attempted to answer is, "Can one increase the validity of the findings of student follow-up studies using small sample telephone interviews?" From the above results the answer is an unqualified "yes".

Cost Effectiveness

The student interviewers reported about four completed interviews per hour. This figure made allowance for the failures, e. g., the phone disconnections, move-aways, and no-answers. One can therefore assume that 100 former students can be contacted in 25 hours of phoning. Even using regular classified employees at approximately $6 per hour, a sample of 100 former students could be obtained for $150.

For this study no subjects were selected who lived outside the immediate telephone area. About 78 percent of the student body live within 10 miles of campus and 94 percent live within 15 miles. As a consequence, very few potential candidates for telephoning were eliminated. However, telephone costs were not included in these estimates.

On the other hand, if one assumes even a 20 percent spontaneous return, 500 questionnaires would be sent out to obtain 100 useful returns. Assuming 26 cents postage, the cost for the 100 would be approximately $130.

If one uses the costs estimated above, 100 returns would require an expenditure of $20 more for telephone interviewing than for mass mailing. However, these estimates were all slanted in the direction of increasing the expenses for telephone interviews and decreasing the expenses for mailing. Using student workers as interviewers would reduce the salary for interviewing by 50 percent since students seldom make more than $3 per hour. Assuming a 20 percent spontaneous return for mass mailing is unwarranted. Normally one would expect between 10 and 15 percent return.

Even assuming that the initial estimates were accurate and there was a slight difference in cost per return in favor of mass mailing, there is a great difference in the quality of the conclusions one can draw. Those

from the telephone interviewing sample were defensible and warranted. Those from the mass mailing were, at best, speculative.

Recommendations

The results of this study lead to the recommendation that small-sample telephone interviewing can significantly improve the validity of student follow-up studies without significantly increasing costs.

The utility of a small-sample telephone interview is directly proportional to the care which one exercises in conduction the study. Here are a few suggestions:

1. Sampling is extremely important. The number of former students selected for the telephone sample is, of course, dependent upon the number in the defined population. For large populations, 500 or more, a small proportion should be carefully (randomly) taken. If the population is 50 or less, all can be part of the sample. The actual number selected will be determined partially by the amount of money one wishes to spend. However, if one can expect a 50 to 70 percent response and has the tools, such as SAM, to help in selecting a representative sample, valid results can be obtained from relatively few phone calls.

2. The researchers should exercise extreme care in the selection and training of telephone interviewers. For most people, students, classified employees, or even researchers, telephone interviewing quickly becomes a very dull task. Some amount of interest can be initiated if one shares with the interviewers the nature of the research and permits them to contribute to the interview structure.

MSS/pjd

TABLE 1

Results of Mail Questionnaire

Mailed With Spontaneous Response	No. Mailed	Non-Deliverable No.	Non-Deliverable %	Returned No.	Returned %
Horticulture	219	19	9	38	19
Secretarial Science	216	15	7	40	20
Computer Science	123	14	11	16	15
Natural Resources Management	67	8	12	8	14
Totals	625	56	9	102	18

Postcard Reminder	No. Mailed	Non-Deliverable No.	Non-Deliverable %	Returned No.	Returned %
Horticulture	77			4	5
Secretarial Science	81			2	2
Computer Science	58			0	-
Natural Resources Management	25			1	4

Telephone Reminder	No. Called	Non-Deliverable No.	Non-Deliverable %	Returned No.	Returned %
Horticulture	24			0	-
Secretarial Science	18			2	11
Computer Science	29			2	7
Natural Resources Management	15			0	-
TOTALS	625			113	20

TABLE 2

Results of Telephone Interview

Telephoned	1 No. In Sample Schedule	2 Phone Disconnected No.	2 Phone Disconnected %	3 Moved No.	3 Moved %	4 Non-Deliverables Col. 2 + 3 No.	4 Non-Deliverables Col. 2 + 3 %	5 Refused To Answer No.	5 Refused To Answer %	6 Unavailable No.	6 Unavailable %	7 Total Completed No.	7 Total Completed %	8 Completed Less Non-Deliverables Col. 7 / Col. 1 - 4
Horticulture	82	13	16	9	11	22	27	3	4	19	23	38	46	63
Secretarial Science	77	2	3	25	32	27	35	3	4	1	1	46	60	92
Computer Science	53	7	13	2	4	9	17	1	2	14	26	29	55	66
Natural Resources Management	33	14	42	2	6	16	48	1	3	6	18	10	30	59
TOTALS	245	36	15	38	16	74	30	8	3	40	16	123	50	72

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INSTRUCTIONS TO INTERVIEWERS

1. Before making the call, fill in the name, telephone number, sex, code, and age for each student, from the listing.

   The first line of student's listing looks like this, and the information you need is marked as follows:

   SEX / CODE / AGE

   P001496 P1 001.0600 M A1 22

2. Make every effort to contact each ex-student. If they have moved, get the new phone number, if possible.

3. The best time to call is the evening, between 6 and 9 p.m., or weekends.

4. Start each interview with the following message, but use your own words:

   "This is Steve Sheldon of the Pierce College Research Office. We are doing a survey of some of our former students, in order to improve our instruction and services. Will you give me about five minutes of your time to answer some questions?"

5. At the end of the interview, ask the general question:

   "What other suggestions can you make for Pierce College to improve its services to students?"

6. Always ask questions in a conversational tone, using words that you and the interviewee are comfortable with.

   For example, instead of: "Are you presently employed?" you might say: "Do you have a job now?"

7. Fill in as many of the blanks as possible. The interviewee will often volunteer information for questions that you have not yet asked. The sequence of questions is up to you.

8. Write (legibly) any bit of information or anecdote that you think is relevant for feedback to the departments.

PROGRAM UNIQUE QUESTIONS

1. Was your major at Pierce HORTICULTURE (1 = YES 2 = NO)
2. What was your specialty?
   1) General Ornamental
   2) Professional Gardening
   3) Floral Design
   4) Land Management
   5) Nursery Operation Management
   6) Turf Grass Management

Do you think there should be more classes in: (Mark each item: 1 = YES 2 = NO)

- Soils
- Landscape Design
- Construction Techniques
- Fruit Crops
- Irrigation Design
- Turf Grass
- Production/Nursery Management

Which would be more helpful?
   1) More practical, Less theoretical courses
   2) More theoretical, Less practical courses
   3) Half and half

Did you take the course "Botany For Horticulture" (1 = YES 2 = NO)

IF YES: Was Botany useful for other Horticulture courses? (1 = YES 2 = NO)

Were these courses helpful in getting a job? (1 = YES 2 = NO)
   1) Plant Identification
   2) Construction courses
   3) Plant Production/Nursery Management
   4) Soil/Fertilizer
   5) Pest Control
   6) Floral Design
   7) Landscape Design

IF WORKING, is salary as much as expected? (1 = YES 2 = NO)

Rate Horticulture course content for meeting job requirements
   1) Beyond job requirements
   2) Met job requirements
   3) Inadequate

1. Was your major at Pierce SECRETARIAL SCIENCE
2. What was your specialty?
   1) Legal
   2) Medical
   3) General
   4) Clerical

(FOR THE FOLLOWING QUESTIONS, Mark each item: 1 = YES 2 = NO)

3. Did you need shorthand to get the job?
4. Is shorthand used in job?
5. Do you use a ditto machine?
6. Do you use a mimeograph machine?
7. Do you use "correct type" for errors?
8. Do you make carbon copies regularly?
9. Are you asked to compose business letters?
10. Would more training on telephone have helped you?
11. Do you supervise others in your job?
12. Would a course in human relations have helped you in your job?
13. Would pre-job simulated office experience have helped?
14. Does your office use word processing techniques?

IF YOUR SPECIALTY IN YOUR MAJOR WAS LEGAL SECRETARIAL WORK ANSWER THESE QUESTIONS, YES OR NO.

15. Was the legal training you received relevant to your job?
16. Did you need more training filing legal documents?

IF MEDICAL:

17. Was the medical training relevant to your job?
18. Do you do "back office" work

Was your major at Pierce NATIONAL RESOURCES MANAGEMENT

What was your specialty?
1) Wildlife
2) Forestry
3) Recreation

How many NRM classes did you take?

How many did you take after 4:30 p.m.?

How would you rate these topics as offered by Pierce? (Mark each item: 1 = More Needed; 2 = O.K. as is; 3 = Less Needed)

Outdoor Lab Work
Field trips
Career information
Employment assistance
Job preparation
Advanced or second semester classes

you're working or studying in NRM field, do you ck any knowledge or skill that you need for the ? (1 = YES 2 = NO)

IF YES: Which? _____

How would you rate these as to number of courses offered: (1 = OK As Is; 2 = Wanted, Didn't Get; 3 = Had, Wanted More)

Recreation
Wildlife
Fire Control
Forestry
Soils
Land measurements
Nature study

Would you accept non-paid NRM work experience for class credit? (1 = YES 2 = NO)

IF NO: Why not?

1) No time
2) No car
3) No interest
4) Want paid work only
5) Other _____

1. Was your major at Pierce COMPUTER SCIENCE

2. What was your specialty?
   1) Programming
   2) Technology
   3) Business Data Processing

3. Would more training in computer languages have helped you in your present job? (Mark each item: 1 = YES 2 = NO)

   COBOL
   RPG
   PL/1
   FORTRAN
   ASSEMBLY
   OTHER: _____

4. Would training in this equipment have helped in your job? (1 = YES 2 = NO)

   Minicomputer
   Microprocessor
   Microcomputer
   Data Entry Devices (other than Keypunch)
   Key-to-tape
   Key-to-Disk
   Teleprocessing Equipment

5. Should training in these new courses be offered? (1 = YES 2 = NO)

   TSO
   CICS
   JCL (Job Control Language)
   Large Minicomputer Systems
   Other: _____

6. Was Pierce instruction helpful in your getting a job? (1 = YES 2 = NO) _____

REMINDER POSTCARD

To You! A Former Pierce College Student:

We need you!

A few weeks ago we sent you a questionnaire asking you about your experience at Pierce College. Did we help or hinder you? You haven't sent it back yet, and we need the information to complete our research. With the information you give us we may find ways to improve what Pierce College can do for our community. Please take a few minutes to fill out the questionnaire and return it. If you've lost the questionnaire or have any questions, please call 347-0551 Ext. 388. We'll be happy to answer any of your questions. Your help will be appreciated.

Thank you,

Pierce College Research

Shasta College Student Accountability Model Extension Project

Purpose: This project was one of several funded by the California Community College Chancellors Office to extend the widely used occupational student accounting and follow-up procedures to non-occupational students. In the Spring of 1976 several colleges which had implemented the SAM system for occupational students were invited to submit applications for funds to study the problem. Shasta College was one of the colleges selected to participate in this series of studies since the occupational student accounting and follow-up system was fully implemented at the college.

Modification of the way in which students were classified was the major problem addressed in the extension project. The SAM accounting component relies upon "derived" occupational categories to classify students. For accounting purposes, each student is assigned to an occupational category on the basis of course enrollments. Declared college major is completely ignored in the SAM classification system. The utility of such a classification system should be apparent; it makes it possible to identify students in terms of specific training undertaken at the college. For follow-up purposes it makes it possible to evaluate the job performance of former students in terms of their actual training. Colleges employing the system report that they are better able to identify the occupational student and to carry out follow-up studies because of the classification system.

The problem of how to modify this rather exact classification system with great potential for providing management information for occupational programs and still accomodate the student accounting and follow-up needs in non-occupational areas of the curriculum requires careful consideration. The curriculum in most occupational programs can be clearly specified for that occupation. This is not true when considering curriculum designed for non-occupational student needs. Course enrollments of students planning to transfer to a state college or university are usually quite diversified. Students enrolled at the college may also have highly personalized goals which do not relate to the purpose the curriculum was intended to achieve.

Because of the complexity in attempting to relate student purpose to course enrollments in non-occupational areas, Shasta College undertook this study to determine the feasibility of using declared educational objectives as a classification scheme to extend the accounting procedures to non-occupational students.

Any proposed classification scheme for non-occupational students must meet several important criteria. First, the classification scheme for non-occupational students must necessarily be compatible with the existing occupational student classification system. That is, the categories in which students are classified should relate to the students purpose for attending college. Each student should fit one, but not more than one, category in the classification system. That is, the categories of the classification system should be mutually exclusive. The classification system should also be demonstrated to be a valid predictor of the students future educational or career activity. This, after all, is the central purpose in the accounting system: to describe in general terms why and in what curriculum the student is enrolled and predict what he will do with his college training.

For three years Shasta College has asked each student to declare an educational objective upon enrollment. A cursory investigation undertaken in the 1975-1976 school year indicated that students declaring occupational objectives (pre-employment or in-service training) had a high probability of being identified as an occupational student according to the SAM classification system. This finding gave rise to the present project; we reasoned that if educational objective was related to the choice of courses and future status of students in the occupational curriculum, it might also be useful in describing educational choices and the future status of students enrolled in non-occupational curriculum.

Research Design: For three years Shasta College has included a question regarding educational objective on the registration card completed by all students. The question is offered in the following format:

> EDUCATIONAL OBJECTIVE:
> Please check (✓) one of the educational objectives which best describes the reason for your course selection this semester.
>
> ___ 1. Pre-employment training - You should describe this as your educational objective if the courses you are taking this semester have been chosen primarily to prepare you for employment; you should indicate this choice only if additional training at a four-year college is not required for jobs in this occupational area.
>
> ___ 2. Preparation for transfer - You should indicate this choice if the course work you are taking is primarily intended to fulfill lower division requirements at a four-year college and you plan to transfer to a four-year college upon completion of your lower division course work.
>
> ___ 3. Inservice training - You should indicate this choice if the course work you are taking this semester is primarily intended to improve your skills in an occupational/professional area in which you are already working or have worked.
>
> ___ 4. High school diploma - If the course work you are taking this semester will be used primarily to satisfy the requirements for a high school diploma, you should check this alternative.
>
> ___ 5. General education - If your reasons for enrolling this semester do not meet any of the objectives listed above, you should choose the general education alternative.

Student responses to this question were subjected to series of tests to determine the adequacy of this question as a means of describing and predicting the basic motivation of students attending the college. In our rather exploratory research design we subjected the responses given to the tests described below to determine whether or not the categories might meet the requirements for the sought-after extended classification system.

Test for Logically Related Mutually Exclusive Categories - The research and design used to test the adequacy of declared educational objective in meeting the requirement for logically related mutually exclusive categories was a straight forward inspection of student responses to the question. The registration cards of a random sample of 375 students enrolling for the Fall semester 1975 and the Spring semester 1976 were inspected to determine the frequency with which students checked only one category. The registration cards were also inspected to determine how frequently students had omitted the information requested. We reasoned that the categories could be considered logical if most of the students could relate their purpose for attending to one category on the registration card. The categories might be considered to be descriptive of the total student population if most students supplied the information requested.

Test for Reliability - The test of reliability or stability employed in this investigation was intended to determine whether or not the indication of educational objective on the registration card described a basic motivation or intent of the student or whether the response was capricious or arbitrary in nature. If the choices made by students were arbitrary or capricous, we might then expect either flat distributions or, conversely, two distributions which validate unpredictability from one year to the next. If, instead, we were to find a symmetrical distribution of fall semester which did not significantly vary from one year to the next we might then suspect that students were communicating a stable pattern of choices which related both to the college curriculum and to an underlying motivational condition. It was reasoned that if the choice of educational objective was describing a basic motivational state of students, it would not be subject to rapid or capricious change within the total student population. Given the stability of the educational program and the student population of the college district we might expect the proportion of students selecting a given educational objective to remain relatively stable through time. A test of this assumption was made by comparing the frequency distribution of educational objectives of the total student population for two successive fall semesters. The most important question with regard to declared objective is its' relationship to future educational and career choice of students. In the design of this study we looked at the relationship between declared objective and later identification within a follow-up group as an indicator of the validity of educational objective.

Test for Validity - The single most important question with regard to the proposed classification scheme is neither its' logical construction nor its' stability. The most important question is clearly the relationship between the educational objective category a student chooses and the future educational and career activities of the student. Unfortunately, ideal conditions did not exist for ascertaining the validity of the classification system. In the design of this study we chose predictive criteria based upon their availability rather than their elegance. The following

Results: The following tables depict the results observed in each of the tests described in the previous section.

Test of Logical Consistency - Results of the Logical Categories Test are shown in the table below. Registration cards from a sample of 375 students were chosen at random. The registration cards were inspected and errors recorded. This table shows the number and percent of errors for the Fall and Spring sample groups.

The college recorded a Fall student population of 11,532 and a Spring student population of 10,609. The sample drawn from these populations is adequate to generalize to the total student population with a 5% probability of error in so doing. The evidence indicates that students do not have difficulty classifying their motives for attending college in the categories presented.

Test of Logical Consistency

Errors	FALL 1975 No.	FALL 1975 %	SPRING 1976 No.	SPRING 1976 %
Checked Twice:	2	.0053	1	.0026
Omitted:	3	.0080	2	.0053
	N = 375		N = 375	

Test of Category Reliability - The second table shows the proportion of students choosing each of the five educational objectives listed on the college registration card. The test of category reliability indicates a remarkable consistency in the choices of objectives by students. This level of consistency was not expected since a large number of veterans were known to have left the college in the Spring semester 1976. The distribution of student choices is unequal within the categories but consistent from Fall to Fall; these were the conditions which were judged to be associated with a reliable indicator of student intent or motivation.

	Preemployment	College Transfer	In-Service Training	High School Diploma	General Education
Fall 1975 N = 11,532	2,263 (20%)	2,091 (18%)	1,307 (11%)	502 (4%)	5,369 (47%)
Fall 1976 N = 10,626	2,338 (22%)	2,125 (20%)	1,059 (10%)	429 (4%)	4,675 (44%)

Tests of Validity - The following distribution shows the relationship between frequency of vocational choice in the total student population and the Spring 1976 vocational and transfer follow-up groups.

Relationship Between Declared Objective and Later Identification for Follow-Up

Vocational Education Follow-Up

	Spring 1976 Voc. Ed. Follow-Up Group	Spring 1976 Total Student Population
	N=798	N=10,609
Pre-Employment Objective	285 (36%)	2,228 (21%)
Transfer Objective	66 (8%)	1,910 (18%)
In-Service Training	216 (27%)	1,167 (11%)
High School Diploma		424 (4%)
General Education Objective	231 (29%)	4,880 (46%)

Transfer Student Follow-Up

	Spring 1976 Transfer Student Follow-Up Group	Spring 1976 Total Student Population
	N=249	N=10,609
Pre-Employment Objective	8 (3%)	2,228 (21%)
Transfer Objective	217 (87%)	1,910 (18%)
In-Service Training	4 (2%)	1,167 (11%)
High School Diploma		424 (4%)
General Education Objective	20 (8%)	4,880 (46%)

RELATIONSHIP BETWEEN JOB PLACEMENT AND DECLARED EDUCATIONAL OBJECTIVE

	Initially Employed In a Related Job	Continued Employment In a Related Job	Promoted In a Related Job	Employed In an Unrelated Job	Attending Another College	Unemployed By Choice	Unemployed And Seeking Employment
1. Preemployment Objective	153	11	2	26	10	12	20
2. College Transfer Objective	3	1		17	14	4	1
3. In-Service Training Objective	2	76	5	5	2		
4. High School Diploma Objective				1	1		
5. General Education Objective	1	16	1	58	1	33	6

77% of those declaring a occupational objective held a job directly related to their training choice after complete the training program. Only 14% of those students declaring a non-occupational objective held a job directly related to their training program.

SAN JOSE COMMUNITY COLLEGE DISTRICT
SAM - EXTENSION PROJECT PROPOSAL

DISTRICT SUBMITTING FINAL REPORT

San Jose Community College District
4750 San Felipe Road
San Jose, CA 95121

Contact Person: Dr. Paul P. Preising
District Director - Grants/Research
(408) 274-6700, ext. 30/31

PROJECT PERSONNEL

Dr. Paul P. Preising, Manager
Ms. Jeanette Guthart, Project Consultant
Mr. Clyde Herrick, San Jose City College Acting Dean of Occupational Education
Dr. Greg Ohanneson, San Jose City College Assistant Dean of Occupational Education
Mr. Earl Webb, Evergreen Valley College Administrative Assistant to the President
Occupational Education Program
Mr. Robert Feinour, Data Processing Director

PARTICIPATING COLLEGES

San Jose City College
2100 Moorpark Avenue
San Jose, CA 95128

Evergreen Valley College
3095 Yerba Buena Road
San Jose, CA 95121

I. PURPOSE

The chief effort was to determine if we could use existing data processing and programming capability to generate a list of non occupational students, without coding them "E" or some other designation. Once the list was generated, we intended to apply the SAM random sample generator to generate a sample of non occupational students. We then intended to survey this sample of non occupational students and then to complete a report similar to the CCOE-45, which would give us a comparison of occupational to non occupational students according to a common format. For example, one of the outcome deals with unemployment. It would be interesting to note the unemployment rates of occupational and non occupational students.

Another purpose of the study was to identify a sub sample from the non occupational sample who actually tranferrred to four year colleges and to replicate an earlier 1971 follow up study on transfer students.

Specifically we wanted to gain answers to the following:

1. What is the ratio of occupational to non-occupational students. We have some notions currently, but estimates vary. We would like to verify what SAM identifies as occupational students from non-occupational students.

2. How the profile of non-occupational students compares with occupational students, using the CCOE-45 format. For example, are more non-occupational students as compared to occupational students unemployed? (The profile will be done at least on the horizontal axis. Efforts will be made to set up profiles within categories on the vertical axis, but this may not be possible.) Finally, we would like as an option to explore the use of the TRACE Project and possibly compare results of CCOE-45 based on TRACE with CCOE-45 data based on SAM.

3. How effective non-occupational students who transferred to four year colleges rated the following:

   a. Their academic preparation at either San Jose City College or Evergreen Valley College.

   b. The teaching staff at either San Jose City College or Evergreen Valley College.

   c. The counseling staff at either San Jose City College or Evergreen Valley College.

   d. The administrative staff at either San Jose City College or Evergreen Valley College.

   e. The course variety at either San Jose City College or Evergreen Valley College.

   This phase of the report will replicate a 1970 follow-up study of San Jose City College transfer students.

4. Of the students in the non occupational category, how many either changed from occupational to non occupational and/or upon departure changed to occupational.

5. How many students fall into the following categories:

   a. Those who complete requirements for - and receive - an A.A. degree.

   b. Those who complete requirements for - but do not apply for - A.A. degree.

   c. Those who complete the required number of units for a degree, but fail to complete (1) pattern requirement, (2) general education requirements, or (3) a combination of 1 and 2.

   Intended here is to simply categorize numbers and percentages. Since these categories are identical to those of the Foothill "SAM Extension Project Proposal," we will be in a position next year (1977-1978) to replicate at San Jose Community College District this year's effort of the Foothill Project. It is anticipated this effort would be an in depth analysis by category. By building on the Foothill experience, comparisons would be possible and improvements could be made.

   See Appendix "A" for copy of study proposal.

II. GENERAL METHOD

Communication was begun between the San Jose Community College District, R&D Office, Dr. Gold and Bob Feinour, our Data Processing Director, during the last week of September and first week of October, 1976. (See Appendix B, memo attached.)

Initial discussion with Mr. Feinour, Data Processing Director, indicated as per my memo of October 8, 1976 to him (above) that the District had the capability to complete the project. However, when the memo was actually sent and the effort made, we encountered serious problems.

Mr. Feinour indicated that the cost for the request might be as high as $7,000, since substantial changes would have to be made in existing district data processing capabilities.

Faced with the expenditure of such a large sum of money prior to acceptance and approval of contract, the R&D Office decided to wait until contract details were worked out.

On December 16, 1976, we received a letter from Dr. Ben Gold, and Mr. Lee, Appendix C, indicating that the Los Angeles Community College Board of Trustees had approved, on December 15, 1976, a contract (Appendices C&D) authorizing San Jose Community College District to proceed with its proposed field testing for $6,400.

Our contract person, Mr. Hal Biggs, reviewed the contract as proposed by Mr. Lee of the Los Angeles Community College District, and recommended significant changes to the Chancellor prior to going to our Board of Trustees for final approval.

See Appendices E, F, and G for detail. One of the requirements for carrying out the contract was that our consultant, Ms. Jeanette Guthart, needed to be approved by Dr. William Morris, Evaluation Specialist of the Chancellor's Office, California Community Colleges. See Appendix H for correspondence.

Despite the problems with the contract, the R&D Office resumed contact after Christmas vacation (January 3, 1977) with Mr. Feinour on the assumption that the contract details would be resolved, which they finally were.

Again the R&D Office encountered data processing problems, one of which I mentioned to Dr. Gold* in my letter of January 12, 1977 (Appendix I).

Since there was confusion between Mr. Feinour and my earlier request of October 8, 1976, despite considerably verbal exchanging, the R&D Office detailed a second memo on January 24, 1977 to get the non occupational student list required to complete the SAM field test. Appendix J.

On February 15, 1977, we received a memo from Mr. Feinour (See Appendix K), that detailed the problems and provided a cost analysis, indicating $7,306 would be needed to make good my request for data processing support as per my January 25, 1977 memo.

*If you cannot clearly identify occupational students, how can you identify the remainder (who ought to be non occupational).

It was at this point that Mr. Feinour, Dr. Channeson, and Dr. Preising met to discuss the feasibility of seeking data processing assistance and decided to contact the SAM consortium Data Processing Consultant, Dr. Donald Medley. (See Appendix L)

Dr. Medley visited the District on February 23, 1977 and after spending a day in discussion and review of the District's data processing operation prepared a comprehensive report, received by the District on March 8, 1977, that made recommendations for improvements. See Appendix M for a copy of the report.

This report was circulated to key District and college persons for review. On March 24, 1977 after informal exchanging at which a meeting was arranged with the Chancellor, Otto Roemmich, (Appendix N) the report was discussed in detail to determine follow up steps. One outcome of this meeting is described in Appendix "O".

One of the outcomes of this meeting was to continue to make the effort to carry out tasks #1, 2, and 3 detailed on page 1 and 2 of this report, using District funds.

A deadline of June 15, 1977 has been established for these tasks; every effort will be made to complete these tasks sooner.

III. SUMMARY OF FINDINGS

Our efforts resulted in the following findings:

1. Given the time frame of six months, the San Jose Community College District was unable to generate an accurate listing of its non occupational students using SAM and existing computer hardware and software.

2. An estimated $7,306 will be required to develop the capability to generate an accurate listing of non occupational students, using SAM and existing computer hardware and software.

IV. CONCLUSIONS

The San Jose Community College District Chancellor and related staff are convinced of the value of SAM for occupational education reports, monitoring and program improvement. Further, the District Director - Grants/Research believes SAM can be a powerful tool for conducting institutional research on occupational students as well as non occupational students.

V. RECOMMENDATIONS FOR FUTURE DEVELOPMENT

The San Jose Community College District through the Office of Grants and Research, will continue to experiment with and assist in the development of SAM and data processing procedures needed to make SAM a viable system for institutional research and student follow up.

BUDGET
EXPENDITURES

	GRANT	DISTRICT	TOTAL
Outside Consultant ($75x 3 days = $225)	$ 225	-0-	$ 225
Secretary ($50x 2 days= $100)	$ 50	$ 50	$ 100
District Director - Grants/Research ($146 x 4 days = $584)	-0-	$ 584	$ 584
Assistant Dean, Occupational Educ., San Jose City College/Ohanneson ($114 x 3 days = $432)	-0-	$ 432	$ 432
Assistant to President/Occupational Educ., Evergreen Valley College/ Webb ($120 x 2 days = $240)	-0-	$ 240	$ 240
Data Processing Director, SJCCD, Feinour ($119 x 3 days = $357)	-0-	$ 357	$ 357
Secretarial/Xerox	$ 155	-0-	$ 155
Postage/Supplies	$ 26	-0-	$ 26
	$ 456	$1,663	$2,119
Indirect Costs .08%	36	133	169
	$ 492	$1,796	$2,288

APPENDIX "A"

SAN JOSE COMMUNITY COLLEGE DISTRICT
SAM - EXTENSION PROJECT PROPOSAL OUTLINE

DISTRICT SUBMITTING PROPOSAL

San Jose Community College District
4750 San Felipe Road
San Jose, CA 95121

Contact Person: Dr. Paul P. Preising
District Director - Grants/Research
(408) 274-6700, ext. 30/31

PROJECT PERSONNEL

Dr. Paul P. Preising, Manager
Ms. Jeanette Guthart, Project Consultant
Mr. Clyde Herrick, San Jose City College Acting Dean of Occupational Education
Dr. Greg Ohanneson, San Jose City College Assistant Dean of Occupational Education
Mr. Earl Webb, Evergreen Valley College Administrative Assistant to the President Occupational Education Program

PARTICIPATING COLLEGES

San Jose City College
2100 Moorpark Avenue
San Jose, CA 95128

Evergreen Valley College
3095 Yerba Buena Road
San Jose, CA 95121

PROBLEM

There is a discrepancy between what we currently know about non-occupational and occupational students who leave college and what we would like to know. We would like to know:

1. What is the ratio of occupational to non-occupational students. We have some notions currently, but estimates vary. We would like to verify what SAM identifies as occupational students from non-occupational students.

2. How the profile of non-occupational students compares with occupational students, using the CCOE-45 format. For example, are more non-occupational students as compared to occupational students unemployed? (The profile will be done at least on the horizontal axis. Efforts will be made to set up profiles within categories on the vertical axis, but this may not be possible.) Finally, we would like as an option to explore the use of the TRACE Project and possibly compare results of CCOE-45 based on TRACE with CCOE-45 data based on SAM.

3. How effective non-occupational students who transferred to four year colleges rated the following:

   a. Their academic preparation at either San Jose City College or Evergreen Valley College.

   b. The teaching staff at either San Jose City College or Evergreen Valley College.

   c. The counseling staff at either San Jose City College or Evergreen Valley College.

   d. The administrative staff at either San Jose City College or Evergreen Valley College.

   e. The course variety at either San Jose City College or Evergreen Valley College.

   This phase of the report will replicate a 1970 follow-up study of San Jose City College transfer students.

4. Of the students in the non occupational category, how many either changed from occupational to non occupational and/or upon departure changed to occupational.

5. How many students fall into the following categories:

   a. Those who complete requirements for - and receive - an A.A. degree.

   b. Those who complete requirements for - but do not apply for - A.A. degree.

   c. Those who complete the required number of units for a degree, but fail to complete (1) pattern requirement, (2) general education requirements, or (3) a combination of 1 and 2.

   Intended here is to simply categorize numbers and percentages. Since these categories are identical to those of the Foothill "SAM Extension Project Proposal," we will be in a position next year (1977-1978) to replicate at San Jose Community College District this year's efforts of the Foothill Project. It is anticipated this effort would be an in depth analysis by category. By building on the Foothill experience, comparisons would be possible and improvements could be made.

OBJECTIVES/OUTPUT

1. Operational definitions, questionnaires, and procedures for occupational and non occupational student follow-up using SAM.

2. Comparisons of non occupational with occupational students according to CCOE-45 format.

3. Replication and expansion of 1970 follow-up study (attached) on San Jose Community College District transfer students.

4. Analysis of stability of student choice with regard to occupational/non occupational career decisions.

*5. Exploration of feasibility/value, problems involved related to comparisons of CCOE-45 data on high school occupational students using TRACE and community college students using SAM.

PROPOSED SOLUTION

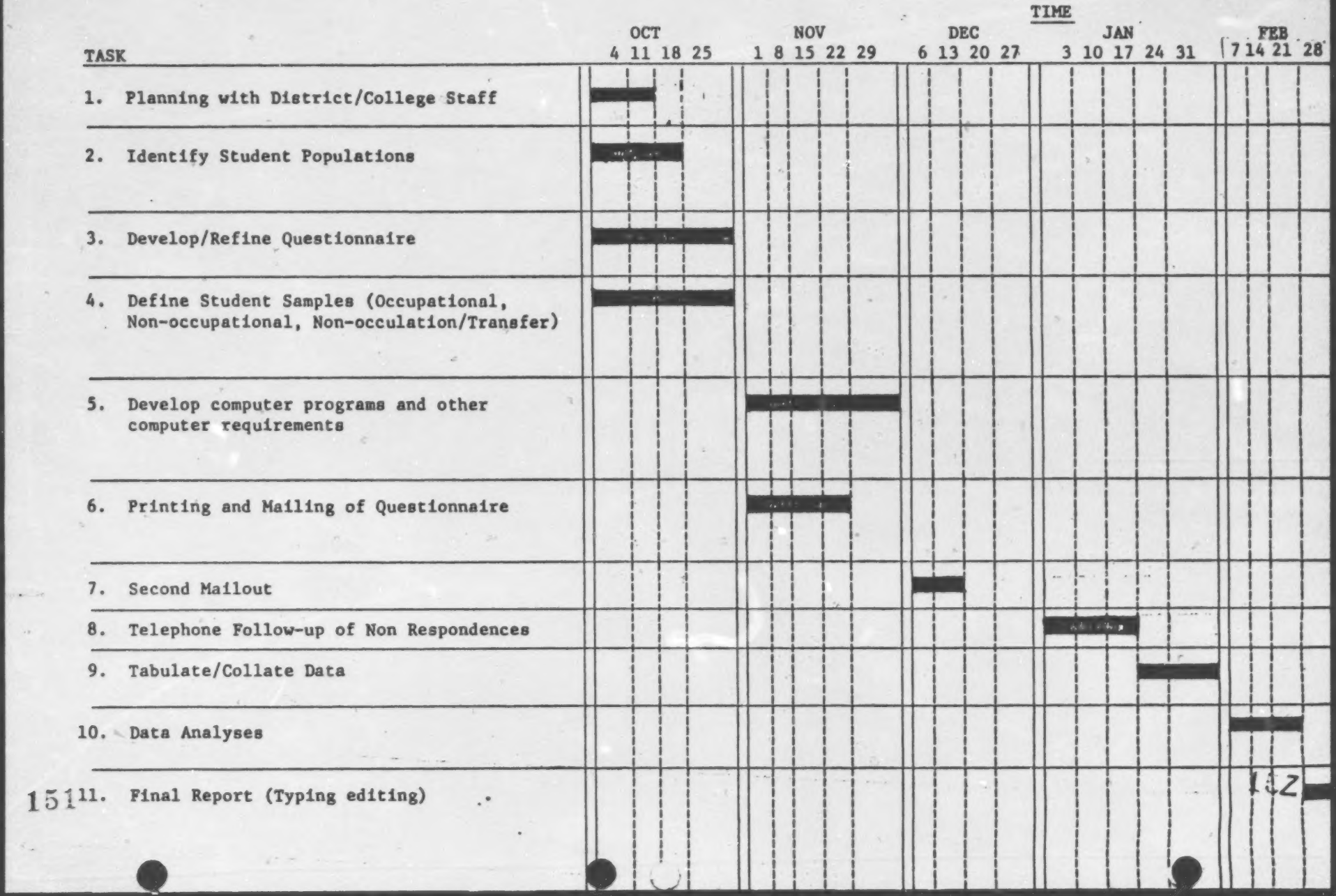
We propose to use the SAM Model to generate a list of occupational as well as non-occupational students who were enrolled from Fall 1975, Spring 1976, and did not reenroll in Fall 1976. Next, we will define those who tranferred to colleges/universities using data from transfer institutions and make contact using questionnaire/telephone interview guide, etc. to determine answers to questions bearing on their preparation for college (re: community college teaching/counseling/advisement, etc.)

We intend to do either a random sample or stratified random sample of non occupational students (stratified on sex and possible other relevant variables) for the collection of comparative CCOE-45 information. Additionally, we propose to describe the non occupational student who does not reenroll on variables such as sex, income, ethnic background, veteran and selected other variables to allow secondary level analyses. For example, do more men than women get jobs?

This is a districtwide study; data will be reported for each of the colleges as well as district totals. Deadline for completion of study is 31 March 1977.

*This is considered optional. We shall investigate the retrieval of information, examine data, and report on feasibility/value of comparing SAM CCOE-45 data with that collected at high school using TRACE.

TIME/TASK/PERSON RESPONSIBLE



BUDGET

	GRANT REQUEST	DISTRICT FUNDS	TOTAL
District Director - Grants/Research Management/Advisement - $145/day x 10 days	-0-	$ 1,450	$ 1,450
Outside Consultant - $50/day x 40 days	$ 2,000	-0-	$ 2,000
Travel and Expense - .16/mile x 1000	$ 160	-0-	$ 160
Secretarial/Xerox	$ 400	$ 100	$ 500
Computer Usage (Stanford)	$ 1,000	$ 500*	$ 1,500
Keypunching	$ 250	-0-	$ 250
Supplies/Postage	$ 750	-0-	$ 750
Communications - Telephone	$ 500	-0-	$ 500
Printing Questionnaire Development	$ 500	-0-	$ 500
Office Facilities Equipment	$ -0-	$ 200	$ 200
Project Report Typing	$ 200	-0-	$ 200
	$ 5,760	$ 2,250	$ 8,010
Indirect Costs 36.5% of Direct Costs ($8,010 = $2,924; .08 of $2,924 = $640; $2,924 - $640 = $2,284)	$ 640	$ 2,284	$ 2,924
	$ 6,400	$ 4,534	$10,934

*SJCCD Computer in kind matching

APPENDIX "B"

SAN JOSE COMMUNITY COLLEGE DISTRICT

October 8, 1976

TO: Bob Feinour

FROM: Paul P. Preising PP

SUBJECT: Institutional Research

As per our meeting of 10/6/76, it's my understanding your office has the capability to support the research project that uses SAM to generate a list of non occupational students.

Specifically, we need:

1. A list of non occupational students broken down as follows:

SJCC (Total)			EVC (Total)			DISTRICT (Total)		
Day	Evening	Total	Day	Evening	Total	Day	Evening	Total

2. A random sample generator that will generate a random sample stratified by college, by day and evening, by sex. I figure we need 300 female day students, 300 male day students per college; 300 female evening and 300 male evening students per college. This makes a total sample of 1200 students/college or a total stratified random sample of 2400 students.

3. For the students in the sample (n = 2400) we need a listing of the sample plus two sets of gummed labels. It would help to have telephone number of students in the sample.

I would like to shoot for a November 12, 1976 deadline for 1, 2, 3 above.

Also I agreed not to initiate any more research studies during 1976-1977 college year (ends June 30, 1977). However, I pointed out that additional studies might be commissioned by the Chancellor and/or presidents. I also agreed to secure outside funding to support the computer assistance your office provides, if additional studies are commissioned.

/cc

*file

Los Angeles Community Colleges

Administrative Offices: 2140 West Olympic Boulevard, Suite 310, Los Angeles, California 90006 • (213) 380-6000

Leslie Koltai, Chancellor

December 16, 1976

Dr. Paul P. Preising
District Director - Grants/Research
San Jose Community College District
4750 San Felipe Road
San Jose, California 95121

Subject: CONTRACT NO. 76-7417; FIELD TESTING OF STUDENT ACCOUNTABILITY MODEL

Dear Dr. Preising:

On December 15, 1976, the Board of Trustees of the Los Angeles Community College District authorized an agreement for services of your College District in the cooperative field testing of SAM as outlined in a grant awarded to our Districts under the Vocational Education Act.

Enclosed, therefore, are two (2) signed copies of our agreement covering this arrangement. If the agreement meets with your approval, please have the agreements executed by an authorized person of your District and promptly return one copy to this office, Room 227. Your kind assistance is greatly appreciated.

Very truly yours,

D. W. Lee
Contracts Coordinator

DWL:sd

cc: Dr. Ben Gold

Enclosure

RESEARCH-GRANTS
RECEIVED
DEC 20 1976
SAN JOSE COMMUNITY COLLEGE DISTRICT

TO: Paul Preising

DATE December 16, 1976

FROM: Ben K. Gold BKG

SUBJECT: SAM Extension Project Funding

I am pleased to inform you that the Los Angeles Community College Board of Trustees yesterday approved the authorization to contract with San Jose for $ 6,400 to field test the aspects of the SAM Extension Project as agreed at our October 1 meeting. The official contract should reach you shortly. If there are any problems, please let me know.

At our January 14 meeting, we would like you to present a status report on your project. Please plan to let us know where you are on the project, your project timelines, if you recommend any changes in the approved proposal, and if the SAM consortium or staff can be of any assistance to you.

We hope you can be present at the January 14 meeting. If not, we would appreciate your sending someone who can speak for you.

Happy holidays.

sf

P.S. The January 14 meeting will be held at the Royal Inn of San Francisco Airport, 275 S. Airport Blvd. in the Aztec Room.

RESEARCH-GRANTS
RECEIVED
JAN 4 1977
SAN JOSE COMMUNITY COLLEGE DISTRICT

4750 San Felipe Road
San Jose, California 95121
(408) 274-6700

Otto Roemmich, Chancellor

San Jose City College
Evergreen Valley College

San Jose Community College District

February 2, 1977

D. W. Lee
Contracts Coordinator
Los Angeles Community Colleges
Administrative Offices
2140 West Olympic Blvd.
Suite 310
Los Angeles, CA 90006

Dear Mr. Lee:

Attached is a modified contract made necessary by the loss of time which prevents the District from completing the original contract.

I have dicussed this with Dr. William Morris, Evaluation Specialist and Dr. Ben Gold and have their approval. Would you please return a signed copy for Dr. Otto Roemmich, Chancellor of the San Jose Community College District, and myself.

Please be assured that the San Jose Community College District will comply with your requirements and do its best to turn in a quality report.

Yours truly,

Paul P. Preising

Paul P. Preising
District Director
Grants/Research

/cc

cc: Dr. Roemmich
Dr. Murguia
Dr. Strelitz
Dr. Burns
Dr. Goff
file (1)

Board of Trustees – John R. Brokenshire • Gael Douglass, • John E. Marlow, M.D., • Virginia Sandoval • Yancy L. Williams

SAN JOSE COMMUNITY COLLEGE DISTRICT

February 1, 1977

TO: Board of Trustees

FROM: Otto Roemmich, Chancellor

SUBJECT: Contract No. 76-7417; Field Testing of Student Accountability Model (SAM)

CHANCELLOR'S RECOMMENDATION

It is recommended the Board of Trustees of the San Jose Community College District approve the Agreement between Los Angeles Community College District and the San Jose Community College District for the extension of the proposal as submitted.

Approval of this contract will enable the District to receive up to $6,400 in federal funds for the development of computer programs and other capabilities to further experiment with and test the student accountability model (SAM).

It is anticipated that the District will receive increased knowledge in the application of the SAM model as well as the means for carrying out the completion of additional research. Acceptance of this contract will not require the expenditure of any non-budgeted District funds.

Los Angeles Community Colleges

Administrative Offices: 2140 West Olympic Boulevard, Suite 310, Los Angeles, California 90006 • (213) 380-6000

Leslie Koltai, Chancellor

February 9, 1977

San Jose Community College District
4750 San Felipe Road
San Jose, California 95121

Attention: Dr. Paul P. Preising

Subject: Agreement No. 76-7417

Gentlemen:

Enclosed is your copy of the referenced agreement.

Very truly yours,

Dennis W. Lee
Contracts Coordinator

DWL:mej

Enclosure

RESEARCH-GRANTS
RECEIVED

FEB 14 1977

SAN JOSE COMMUNITY COLLEGE DISTRICT

APPENDIX "H"

4750 San Felipe Road
San Jose, California 95121
(408) 274-6700

Otto Roemmich, Chancellor

San Jose City College
Evergreen Valley College

San Jose Community College District

February 14, 1977

Dr. William Morris
Evaluation Specialist
Chancellor's Office
California Community Colleges
1238 S Street
Sacramento, CA 95814

Dear Bill:

We have approved the contract for $6,400 to experiment with SAM doing non-occupational follow-up.

In accord with requirements of the contract, please note that we will, given your approval, hire Ms. Jeanette Guthart as a consultant to assist in completing the project.

Ms. Guthart has worked previously with the District; I am most pleased with the calibre of her work.

I would appreciate an "OK" from you in this regard.

Yours truly,

Paul

Paul P. Preising
District Director
Grants/Research

/cc

cc: Dr. Otto Roemmich, Chancellor
file (1)

Board of Trustees — John R. Brokenshire • Gael Douglass, • John E. Marlow, M.D., • Virginia Sandoval • Yancy L. Williams

APPENDIX "I"

SAN JOSE COMMUNITY COLLEGE DISTRICT

January 12, 1977

TO: Ben Gold

FROM: Paul P. Preising PP

SUBJECT: Observations on SAM Program for Selecting Occupational Students

We experienced a problem both years we tried to identify our population of occupational education students for the CCOE-45 report.

The problem was that at least 10% of the students who were enrolled in Fall and Spring and supposedly did not re enroll the subsequent Fall, were in fact enrolled.

We believe this came about for the following reasons:

1. SAM selects only occupational students who fail to re enroll. Hence, if an occupational student of Fall and Spring takes non occupational courses in the subsequent Fall, he is picked up by SAM as a non returning student, but he has in fact returned. It's just that he is no longer taking occupational courses.

2. Some studfiets change courses around, and even though they are enrolled, their instructors have not straightened out their status with the computer people until after census week.

Solution to the above is to check the list of CCOE-45 students selected by SAM against a grand master file. This would allow us to catch the student who was occupational in Fall and Spring and changed to a non occupational sequence in the following Fall.

Also, it's probably a good idea to structure the questionnaire and/or cover letter in such a way that we avoid giving the impression the student has left the college. For example, a simple question, such as "are you still enrolled at _____, yes, no" might be one approach. Another would be to write the cover letter without reference to "former student status."

Ben, I thought I would write these comments down so they can be captured and handled. Please let me know if the problem was encountered by others.

/kh

cc: Dr. Channeson
Mr. Webb
Mr. Feinour
Mr. Morris
file (2)

APPENDIX "J"

SAN JOSE COMMUNITY COLLEGE DISTRICT

January 25, 1977

TO: Bob Feinour

FROM: Paul P. Preising

SUBJECT: Non-occupational Education Students

We have been funded for the project we discussed with regard to non-occupational education students.

To get this project under way, we need:

1. A listing of non-occupational students broken out male and female as follows:

   San Jose City College - day, evening and total; Evergreen Valley College - day, evening and total; District - day, evening and total. These non-occupational students are defined by SAM as per page 17 of manual as follows: Class 4 non-occupational major - Graduate G, Certificate C, Achiever A1, partial completors and non-completors. (This time frame is the same as CCOE-45 - Fall 1975, Spring 1976, didn't reenroll in Fall 1976.)

2. After completing, number 1 above, you should have a defined population. We would like you to printout (a sorting process) that population as follows:

   Graduates, number and percent of total
   Certificates, number and percent of total
   Achievers, number and percent of total
   Partial Completors, number and percent of total
   Non-completors, number and percent of total

3. We also anticipate identifying a sample and will request gummed labels at a subsequent time.

4. We have budget for computer programming assistance if that will facilitate the project.

/cc

cc: Dr. Roemmich
Dr. Murguia
Dr. Strelitz
Dr. Burns
Dr. Goff
file (1)

SAN JOSE COMMUNITY COLLEGE DISTRICT

February 15, 1977

MEMO TO: Paul Preising

FROM: R. F. Feinour R.F.F.

SUBJECT: Non-Occupational Education Students

Your request for non-occupational student information based upon SAM coding is, unfortunately, not simply the application of the SAM logic in reverse; nor the absence of SAM coding.

There are several areas of the SAM coding that require clarification prior to attempting to identifying non-occupational majors.

1. Project SAM classifies non-occupational majors as a default. For example, page 8 of the SAM Manual waterfalls through classifications 1 through 3; if we don't get a hit, he/she must be non-occupational. NOT TRUE.

2. Project SAM coding does not allow for proper identification of the following categories of students.

   a) General Major Transfer - A.A. Degree

   b) PreProfessional Major - A.A. Degree

   The following are examples of students who, according to Project SAM, are classified as occupational students but who are General Major Transfers or vice versa.

   Student A Currently enrolled in the following classes with the following SAM classifications

Course	Units	SAM Code
ENGL 1A	3	Blank
BIOL 001	5	Blank
BUS 071	3	D
ACCTG 020A	4	D

   Because this student is enrolled in 2 or more D coded SAM classes, he is considered a Class-3 occupational major.

Student B

	Course	Units	SAM Code
	ENGL 1A	3	Blank
	BIOL 001	5	Blank
(Typing class)	BUS 013	3	B

Because this student is enrolled in a typing class, he is considered an occupational major - Class-1.

Student C

Course	Units	SAM Code
ENGL 1A	3	Blank
SPEECH 20	3	Blank
ACCTG 20B	4	C

Because this student is enrolled in ACCTG 20B, he is considered an occupational major - Class-2.

Student D

Course	SAM Code
ENGL 92	Blank
GOVT 55	Blank

This student is classified as a non-occupational student, Class-4, yet his declared major is Engineering Technology.

Student E

Course	SAM Code
ENGL 1A	Blank
ELEM SPANISH	Blank
MEX AMERICAN SOC	Blank
YOGA	Blank

This student is classified as a non-occupational student, Class-4, yet his declared major is Social Services/Welfare.

Student F

Course	SAM Code
BEG TYPING	D
BUS HUM REL	D
ENGL USAGE	B
INTRO COMMUNICATIONS	Blank

This student is classified as an occupational student, Class-1, yet he is a declared General Education Transfer student.

In evaluating your particular request for properly identifying non-occupational students, the following is an estimate of time, talent and cost to successfully complete this project.

TALENT	TASK	TIME	COST
Consultant	Define Non-Occupational Student (Problem definition)	27 hours	$ 810.00
Systems Analyst	Evaluate-Plan-Design D.P. System	40 hours	$ 1,040.00
Programmer Analyst	Program-Document-Test Computer Programs	160 hours	$ 2,880.00
Systems Analyst	Review-Test	20 hours	$ 520.00
	D.P. Supplies		$ 350.00
	TOTAL	247 hours	$ 5,620.00
	Project Overrun 30%		$ 1,686.00
			$ 7,306.00

Project overrun is rated at 30% allowing for

a) Education
b) Training/Familiarization
c) Third Party Analysis/Programming
d) Systems Design Volatility
e) Problem Definition Volatility

I apologize for the delay in evaluating your request. When reviewing the projected costs, bear in mind

1. The initial SAM project took 11 man months of an outside consultant/analyst's time to perform.
2. This department spent approximately 7 man months modifying and implementing Project SAM here at the District.

RFF:cd

APPENDIX "L"

4750 San Felipe Road
San Jose, California 95121
(408) 274-6700

Otto Roemmich, Chancellor

San Jose City College
Evergreen Valley College

San Jose Community College District

February 17, 1977

Dr. Donald B. Medley
Instructor, Data Processing
Moorpark College
7075 Campus Road
Moorpark, CA 93021

Dear Don:

Attached are a couple of memo requests of my computer people. The one dealing with SAM was responded to by Bob Feinour, memo attached, and reflects some of the problems we are having with SAM.

This note will confirm our meeting scheduled for Wednesday, February 23, 1977 at the San Jose Community College District Offices.

I shall meet you at the San Jose Airport. I understand you are arriving from Hollywood Burbank, PSA Flight 109, at 8:45 a.m.

Look forward to a productive day.

Sincerely,

Paul

Paul P. Preising
District Director
Grants/Research

/cc

cc: Dr. Otto Roemmich, Chancellor
Mr. Robert Feinour, Director Data Processing
file (1)

Attachment(s) (4)

Board of Trustees – John R. Brokenshire • Gael Douglass, • John E. Marlow, M.D., • Virginia Sandoval • Yancy L. Williams

APPENDIX "M"

RESEARCH GRANTS
RECEIVED
MAR 9 1977
SAN JOSE COMMUNITY COLLEGE DISTRICT

TO: Dr. Paul Preising

FROM: Don B. Medley

DATE: 3/5/77

SUBJECT: Followup Report Summarizing 2/23/77 Meeting

The San Jose Community College District has implemented the accounting procedures of the Student Accountability Model. They have also cooperated in the development of a followup procedure and are presently experiencing some frustrations due to prcblems encountered while attempting to extrapalate data based on the SAM processes. A consultant from the SAM Consortium was asked to meet with the principles and review the situation. The review took place on February 23, 1977.

The district data processing uses an IBM 370 computer, operating on all three shifts with a staff of a director, five programmer analysts and four operators. The district information files are maintained on random access devices and are maintained and referenced in an on-line environment. This processing environment mandates extensive file reorganization processing on other than the day shift. The member institutions offer educational program supported by the data processing equipment. District application programs are written primarily in Common Business Oriented Language (COBOL) with less than 10% supported in other programming languages.

The 2/23/77 meeting was conducted in the data processing offices with a representative of the district office, a college administrator and the data processing director present. A very open and healthy atmosphere prevailed at the meeting. A feeling of common concern and cooperation was expressed by those in attendance.

Discussions revolved around the implementation of the accounting process and identification procedures connected with the statewide SAM system.

1. All occupational courses on file have been identified with a SAM and CID code.
2. Non-occupational classes are identified with a blank in the SAM code.
3. Occupational courses are identified with USOE codes.
4. Students declare a major, carried in the student master record, that can be revised each time the student registers for classes. Approximately 70% of the students regularly choose to be identifed with an undeclared code.
5. When using SAM coded courses to the students in occupational programs 40% of the students were involved in occupational program areas. Mr. Feinour expressed concern that once students are identifed as occupational they are frequently lost in later semesters.
6. Dr. Preising expressed great concern and frustration because he cannot access selected data from the master file on what he considers a timely basis, at a price he can afford. There would appear to be a need for a more complete description of what data is available on the files and how it can be retrieved by users.
7. Dr. Ohanneson contributed significant data to the discussion describing how the courses had been identifed with SAM, CID and USOE codes and

his concerns about the presentation of the data on reports he has received. He feels that information presented on reports should more accurately reflect the breakdown between day and evening students.

8. The procedures followed to identify a non-continuing occupational education student does not account for the student who takes occupational classes one semester and only academic classes the next semester. This student is identified for followup although still actively enrolled in school.

Suggestions for change: The following suggestions for change identify several possible alternatives for immediate consideration;

1. All courses should be identifed with SAM, CID and USOE codes. The SAM Consortium recommends that all non-occupational classes be identifed with SAM code E but does not restrict the use of any of the twenty six alphabetic letters except for A through D. If all non-occupational courses are coded E the problem of identifying a continuing student for followup should no longer exist and I believe this will not require changes to any existing computer programs.

2. The discussions with Dr. Ohanneson concerning the identification of day and evening students seemed to me to be more of a concern for idenfitying the difference between a defined adult and an "other than" defined adult. If this is true then a recent change in the Education Code and reporting requirements that removed the necessity for such identification would clear up this problem. If, however, Dr. Ohanneson has other reasons for this break-down of reported information then a very basic management decision is required. Perhaps it should be made at the District Administration level.

Since the current procedure for registration does not require a student taking all evening classes to complete the same application, testing and counseling processes as a day student, the student record is generally not complete. To provide for the reporting requirements (separation of day and evening) requested by Dr. Ohanneson all students must be requred to follow the same enrollment procedure or extensive computer programming and systems costs (complete with the attendant delays for more pressing work) will be incured. At this point only Mr. Feinour is qualified to estimate such costs.

3. The problem of increasing the reaction time to requests made for data processing services is very common. Almost every user of data processing services has the problem sooner or later. The problem can be caused by; the user becoming much more sophisticated through knowledge of data processing gained through association or in other words familiarity with some of the systems capabilities; a computing system (hardware) that is operating at or near its capacity; lack of adequately trained personnel to write new program; a desire by the data processing people to have every program written and documented as if it were something to be cast in tables of stone (this is often known as being gun shy or "covering your butt" because you've been burned before). In varying degrees, all the above exist at SJCC.

To combat the user "puesdo sophistication" problem I would suggest that an in-service workshop be conducted by Mr. Feinour. The presentation, attended by all levels of administration that request data processing services,

could include 1) descriptions of available data, 2) a short summary of good business systems questions that should be answered before contacting data processing, and 3) how to estimate basic costs for services. More than one session would probably be needed and it may be determined that an outside source would be more advisable for the instruction. There are several video tape programs from sources such as National Management Association that could be used.

Mr. Feinour indicated that the present on-line operating environment mandates that a large portion of the available non-prime shift computer time be spent each day with reorganization of files and other housekeeping type chores. Since the ability to react quickly to requests for other than standard production services is directly dependent upon processing time being available, a way to correct this situation must be found. Only Mr. Feinour can say at this time what is needed and what the cost will be.

It is a rather universal trait of data processing people (and I find myself very guilty) that they always feel that they can do something better themselves; that all code in packaged supplied programs is inefficient and poorly written. This may be true. If one considers however the cost of systems design, programming, and testing and compares that to the cost of the inefficient program runs the break even point is often several years of processing and the good will from the quickly implemented package can not be measured. All installations should use at least the standard program utilities and programming languages particularly for special processing. There are many such as DYL260 and RPG on the market and reasonably priced.

A constant need for additional computer programmers exists in almost every computer installation. Many educational institutions seek relief by using the more advance programming students to perform coding and checkout chores. Mr. Feinour has had a bad experience with this type of endeavor in the past where a student accessed files that should have been protected. Computer service companies have this same problem and have found ways to use file protect keys that seem to provide the necessary security for their customer files. A set of test files with information on a number (perhaps 100) of sample students maintained for testing programs written by both student and staff programmers would protect the production files. This would also provide a data base where results of all programs tested could be predetermined.

4. Addressing the problem of identifying the non-occupational student using the SAM procedures our discussions on 2/23/77 centered around methods of identification and the accuracy of the identification. Adding the code structure to all classes both academic and occupational as described earlier will be of some help. However, to accurately identify the non-occupational major requires the tracking of the student over his or her entire academic endeavor. Several options are available with others presently being studied under grants from the SAM Consortium.

   1. Once a student has been identified by SAM as occupational the students master record could be coded and that code would continued throughout the students academic career. This would solve the problem of the student identifed as occupational who completes all occupational requirements early in their academic career and then takes only non-occupational "required for graduation" academics in the last couple of semesters.

2. The SAM process of comparing the fall enrollment pattern against the spring enrollment pattern for a student to collect frequency counts by SAM, CID, and USOE codes and to identify the non-continuing occupational student for followup could be expanded. Using this method the student would not be lost from year to year. This would however more than double the cost of this portion of the identification process as each semester would be compared to the unduplicated student file output from the previous semesters processing. A decided benefit from this kind of processing would be the development and continual updating of a student history file that could be a very valuable source for future studies by the District Grants/Research Office.

3. An analysis of the course patterns of selected students could lead to an algorithm that could then be used, applied to the student historical data files as currently maintained by District Data Processing.

4. Wait for the results of the SAM grants work and implement any proposed procedures that appear to satisfy your needs.

Summary:

Paul, I hope the above comments will assist in solving your problems. I think you (SJCC) are quite advanced in your approach to the problems of student identification and followup. I have found few districts that have the planning data and approach that you do. Most of the ingredients

necessary for success you have; great attitudes on the part of the people involved; a committment to improving the process and using the tools at hand to do that; and a good working relationship between the district and campus personnel and with the DP staff. The one thing that I see as a major stumbling block for your continued growth and success is the amount and type of data processing storage available. I sincerely believe that a data processing management committee, composed of representative from all campuses and the district with equal representation for instructional and pupil personnel offices to meet regularly and set priorities on DP work requests and to advise and support request for additional equipment, would be invaluable to your efforts.

Although you specifically asked that I address part of my report to the costs of implementing recommended changes, I'm afraid that will have to wait for another report. Actually, as I pointed out on several occasions in the report, Mr. Feinour is muc more equiped to respond to costs than I. He knows the ex ing storage and hardware capacities as well as the equipm processing load and for me to quote a price without that information would not be prudent. I would however be most happy to work with Mr. Feinour or his designee on such an assignment. I look forward to working with you again in the future.

Don

Don B. Medley, EdD, CDP, CDE, CBE
SAM Consortium Consultant

cc: Dr. Otto Roemmich, Chancellor
Dr. Greg Channeson
Mr. Earl Webb
Mr. Robert Feinour
Dr. Ben Gold, SAM Project Coordinator
File (2)

DBM:kk

SAN JOSE COMMUNITY COLLEGE DISTRICT

March 18, 1977

TO: Dr. Roemmich
Mr. Feinour
Dr. Ohanneson
Mr. Webb
Ms. Guthart

FROM: Paul P. Preising

SUBJECT: Discussion of Medley Computer Report

Dr. Roemmich advised me he would like to discuss the Medley Computer Report (attached).

I believe the best way to explain/discuss the memo is for us to meet and discuss it together.

Carol has checked each of your schedules; we have set the day of our meeting for:

Thursday, March 24, 1977
10:00 a.m., Dr. Roemmich's Office

/cc

cc: Mr. Herrick
Dr. Marr
Dr. Strelitz
Dr. Murguia
Dr. Burns
Dr. Goff
file (1)

March 25, 1977

TO: Dr. Murgula
Dr. Strelitz

FROM: Otto Roemmich

SUBJECT: Research Projects

Please advise all members of your staff, effective immediately all Research Projects which require use of computer facilities in the District Office must be submitted to the office of Dr. Preising rather than directly to Mr. Feinour.

OR/mm

cc: Dr. Burns
Mr. Feinour
Dr. Goff
Dr. Preising

RESEARCH-GRANTS
RECEIVED
MAR 25 1977
SAN JOSE COMMUNITY COLLEGE DISTRICT